The Bradshaw Lecture
ON
THE MORBID ANATOMY OF DIABETES MELLITUS.

Delivered before the Royal College of Physicians of London,

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MR. PRESIDENT, FELLOWS OF THE ROYAL COLLEGE OF PHYSICIANS, AND GENTLEMEN,—It is my first duty to express my gratitude to you, and my humble acknowledgment of the honour done to me, and I hope I may say to the city to which I belong, in selecting me to deliver the lecture which, by the pious munificence of his widow, annually commemorates the birthday of the late Dr. Bradshaw, a former Member of this College, and a worthy and esteemed physician, who practised during his lifetime in the town of Reading. It is fitting also that I should express on behalf of the College our respectful recognition of this lady's appreciation of the character and aims of our ancient corporation, by founding this lectureship for the promotion of the study of medicine. I feel deeply conscious of my own inability to perform the task so generously entrusted to me in such a manner as to deserve your praise; but by your courtesy I know I may expect a patient hearing, and from your indulgence I trust I may escape your censure if I fail to attain the high level of excellence which has characterised the discourses of my eminent predecessors in this chair.

The subject I have chosen for your attention to-day is undoubtedly wanting in novelty, but I was induced to select it chiefly because it was a matter on which my thoughts were already engaged, and concerning which I possessed abundant materials for a reinvestigation of the questions which have been raised in recent years, with the opportunity of studying them in the light of the most modern methods of histological research. If I have no new discoveries to announce, and if I must content myself rather with the humble position of a critic than that of a revealer of fresh facts or novel theories, I will at least ask you to believe that this has not been from any want of patient industry and careful thought, but because of the great difficulty of making new observations in a field which has engaged the close attention of so many competent observers.

It is my purpose to lay before you an account of the changes observed in the principal organs of the body and in the blood, concluding each description with comments upon points of interest on which my own observations seem to me to have thrown any light.

THE NERVOUS SYSTEM.

Brain.—Though no constant lesion has been observed in the brain, this organ is seldom normal. This statement is at variance with the statistics of cases accumulated from all sources (Windle), but is in harmony with recent observations. Out of twenty-seven cases of which I have records of necropsies the brain was stated to be normal in only five. The most common description given is that it was "œdematous and congested, with thickened membranes," eleven out of the twenty-two abnormal brains presenting more or less of these characteristics. It is less often described as anæmic. Atrophy of the convolutions has been stated to be common (Mackenzie); but this does not accord with my observations. These changes are, of course, not peculiar to diabetes, and cannot be considered to have any special relation to its pathology. In quite a minority of cases localised lesions are found, the value of which differs greatly, and in many instances is not easily appraised. Among the most important are tumours in the fourth ventricle and medulla, of which a relatively small number only have been recorded. Not a single instance has come under my own observation, and I have only found records of ten cases, of which three were published by Frerichs. Of the direct dependence of the diabetes upon the growth in many of these cases there can be no reasonable doubt. Instances have also been recorded of softening (Luys); of the presence of corpora amylacea and colloid masses (Abraham); of sclerosis; of alterations in colour and congestion (Tardieu); and of enlargement of the peri-vascular spaces (Dickinson). Of these the softening alone is of undoubted value. The congestion and dark colour of the medulla are interesting, but, taken by themselves, prove little; while the enlargement of the peri-vascular spaces is too common in non-diabetic brain disease, and too exceptional in diabetes, to count for much. The observations of Dr. Abraham are a valuable contribution to the histology of the diabetic brain, and possibly belong to the same class as other lesions, to which I shall refer immediately, which indicate failure of nutrition of the brain tissues, and are rather an effect than a cause of the disease.

There is undoubtedly a tendency in the diabetic brain to the formation of cysts in the white matter. I have found such cysts in the frontal lobes, in the medulla, and in the pons; while in another case a small focus of softening in each crus cerebri looked like an early stage in this process of cyst formation. These cysts are quite free from hæmatoidin staining. Some of them are so small as to be hardly worthy of the name of cysts, but others are as large as horsebeans. It seems probable that this condition is due to a failure of nutrition. The choroid plexuses also occasionally present abnormalities; thus I have found cysts on the choroid plexus of the left lateral ventricle, and the same structure in the fourth ventricle was in one case hypertrophied, while in another case the plexuses of the lateral ventricles were of a dark-purple colour, as if from congestion. The lateral ventricles and the iter a tertio ad quartum ventriculum have been found dilated without any mechanical obstruction to explain it. Extensive hæmorrhage into the brain substance is rare in diabetes. In Windle's table there are only three examples in 184 necropsies, or in 1·6 per cent. There has been no instance at the General Hospital for twenty years out of a total number of 120 cases with twenty-nine deaths. Dickinson has, however, described minute hæmorrhages as common. Finally, glycogen has been found in large quantities in the medulla oblongata and in the vessels of the cerebral cortex (Futterer). Zaleski found iron present, but we are still in doubt as to how far this is an abnormality.

On careful microscopical examination I have not been able to detect, even with the most modern technical methods, any special histological changes either in the cortex, the basal ganglia, or the medulla. The latter has been the subject of special investigation, but the only positive fact observed has been that the capillaries of the vagus nucleus in one case seem to be abnormally numerous and full of blood. The specimen has been placed under one of the microscopes. I have looked for minute hæmorrhages without finding them, and the absence of blood pigment in the cysts already alluded to is opposed to the view that these originate in that fashion. While not disputing its occasional occurrence, hæmorrhage is certainly not a constant or common form of lesion in the diabetic brain.

Spinal cord.—In a certain number of cases diabetes has followed the extension of diseased processes from the spinal cord into the medulla, as in locomotor ataxy and insular sclerosis, where the disease is unquestionably the result of the lesion of the medulla. Again, diabetes has not infrequently followed injuries to the spinal column, though in one case where this occurred the cord was apparently uninjured. In connexion with these facts, it will be remembered that Schiff has produced artificial glycosuria by dividing the cord opposite the second dorsal vertebra; but in cases where the diabetes is neither a complication of a recognised disease of the cord nor a consequence of injury to the spine, this structure has been usually described as normal. Unfortunately, the number of cases in which it has been carefully examined is not large, but in these enough has been found to show that secondary nutritive changes, similar to those in the brain, are apt to occur in the cord; these are dilatation of the central canal, enlargement of the peri-vascular sheaths, and localised softening. Tumours of the cord in connexion with diabetes have been very rarely recorded; the only case known to me is one of myxoma of the dura mater (Shingleton Smith). Glycogen has been found in large quantities in the spinal cord. Microscopical examination of the spinal cord, stained after Weigert's method, has been carefully carried out without any special change being noted.

Cerebro-spinal nerves.—Tumours situated on or compressing the vagus nerve have been found associated with

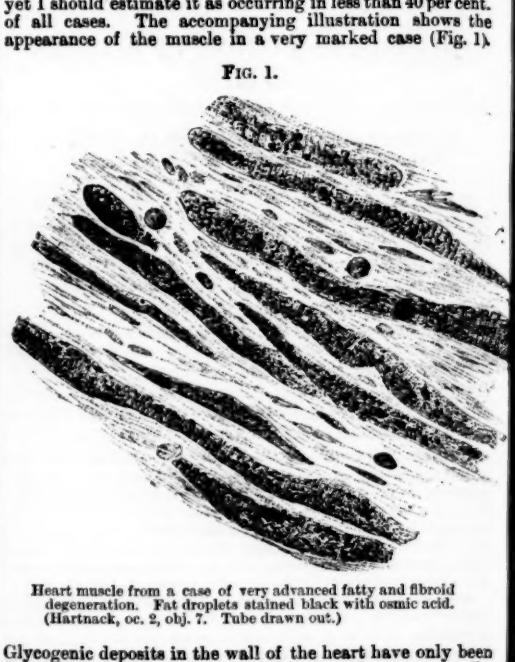
diabetes. Three such cases have been recorded (Harley, Henrot, Frerichs), and in each instance the right nerve was the seat of the lesion. In Frerichs' case the tumour encroached upon the floor of the fourth ventricle, but in the other two cases no such complication existed, the tumour being situated in the thorax. These observations are very interesting in connexion with the recent experiments of Arthaud and Butte, who found that artificially induced neuritis of the central end of the divided vagus caused glycosuria, while a similar lesion of the peripheral end caused hunger, wasting, polyuria, and thirst. Lubimoff has found in one case of diabetes atrophy and pigmentation of the inferior ganglion of the vagus. No pathological observations on the spinal nerves in diabetes are known to me, but it is noteworthy that Arthaud and Butte have produced glycosuria by setting up neuritis in the roots of the first dorsal pair of spinal nerves. Schiff, moreover, has shown that stimulation of the central end of any sensori-motor nerve, such as the sciatic, may be followed by glycosuria. Clinical observation has revealed the existence of a secondary diabetic neuritis, which may be multiple (Leyden) or attack particular nerves (Althaus). In these circumstances it gives rise to the phenomena of paralysis, with wasting and loss of faradaic response of the muscles supplied by the affected nerves.

Sympathetic nerves.—Changes in this system of nerves in diabetes seem very early to have attracted the attention of pathologists. Thus Duncan, as long ago as 1818, found the sympathetic in the abdomen three times as thick as normal; and Percy, in 1842, described the semilunar ganglia, the splanchnic nerves and vagus, as thickened and of cartilaginous hardness. Klebs and Ph. Munk, in 1870, found changes in the cœliac plexus with destruction of a number of ganglion cells. Lubimoff has also found sclerosis of the sympathetic ganglia and atrophy of their nerve cells. In three of my cases the semilunar ganglia have been found enlarged, and in one case atrophied, with increase of connective tissue and atrophy of nerve cells. Hale White has recently described similar lesions in four cases of diabetes. On the other hand, Shingleton Smith has made numerous observations on the state of the sympathetic ganglia without finding any uniform or definite change. In three of my cases the semilunar ganglia were normal, and I have shown in a paper published in the *British Medical Journal* in 1883 that similar microscopical changes to those above described are met with apart from diabetes. Yet I have never seen the semilunar ganglia enlarged except in diabetes; in some of my cases the right semilunar ganglion was quite twice the normal size. The importance of these facts depends upon the results of experiments which have shown that destruction of various sympathetic ganglia—for example, the superior and inferior cervical (Pavy), the first thoracic (Eckhard), and the abdominal (Klebs)—and division or ligature of the splanchnic nerves (Hensen, Arthaud, and Butte), are followed by glycosuria. Extirpation of the cœliac plexus is followed by wasting and death, with temporary glycosuria and acetonuria (Lustig, Peifer).

THE CIRCULATORY SYSTEM.

Heart.—In about 40 per cent. of my cases the heart has been described as free from noticeable change; while in about the same proportion it has been described as pale and soft; more rarely, dilated or hypertrophied, or distinctly fatty. Pericarditis occurs occasionally, and, in one case of death from a carbuncle in a diabetic subject, the pericardium was full of fluid, fatty blood. Valvular disease is quite exceptional, though Lecorché has described endocarditis as a complication of diabetes, and Maguire has recorded a case. It is said to occur in the later stages, and to affect usually the auricular surface of the mitral valve. The rarity of endocarditis may be estimated from the occurrence of only one case of valvular disease out of the 94 cases collected in Windle's tables; and in my 29 cases there was valvular thickening in one only. Mayer has stated that out of 380 diabetics seen at Carlsbad, 82, or 24 per cent., showed signs of cardiac enlargement, and Schmitz, of Neuenahr, has made a still stronger statement as to the prevalence of fatty heart. Frerichs has drawn attention to glycogenic degeneration of the cardiac muscle, and suggests that this is the real cause of the cardiac debility of diabetes. Hypertrophy of the heart was present in 13 per cent. of cases examined in the Berlin Pathological Institute, and this accords very nearly with my experience. Fatty heart is probably much more common, if we are to judge by the frequency with which the muscular substance is described as pale and soft in reports of diabetic necropsies; yet I should estimate it as occurring in less than 40 per cent. of all cases. The accompanying illustration shows the appearance of the muscle in a very marked case (Fig. 1).

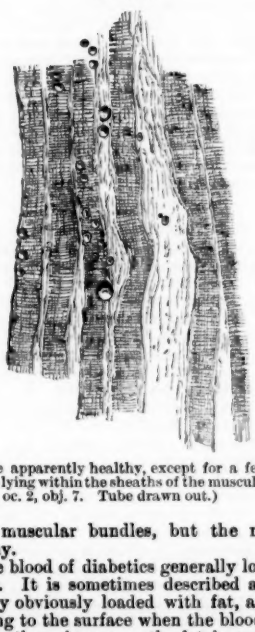
FIG. 1.



Heart muscle from a case of very advanced fatty and fibroid degeneration. Fat droplets stained black with osmic acid. (Hartnack, oc. 2, obj. 7. Tube drawn out.)

Glycogenic deposits in the wall of the heart have only been found by me in such small quantity that I cannot ascribe to them any serious pathological significance. This drawing (Fig. 2) shows a few granules of glycogen deposited

FIG. 2.



Heart muscle apparently healthy, except for a few granule of glycogen lying within the sheaths of the muscular bundles. (Hartnack, oc. 2, obj. 7. Tube drawn out.)

between the muscular bundles, but the muscular fibre appears healthy.

Blood.—The blood of diabetics generally looks normal to the naked eye. It is sometimes described as dark, and is sometimes very obviously loaded with fat, a white, cream-like layer rising to the surface when the blood is allowed to stand. Under the microscope the fat is seen to be at first in a state of molecular subdivision, but these molecules run together to form droplets after death, and thus may produce

the appearance of capillary embolisms. Occasionally the red blood-corpuscles are found broken down into a granular material (Foster, v. Jaksch). In one of my cases the leucocytes were peculiarly large. Quantitative changes in the hæmocytes are common, these being generally reduced in number, with a corresponding reduction in the hæmoglobin. Normal blood contains sugar in varying amounts. The following table gives the estimate of four observers:—

Name.	Parts per cent.
Pavy	0·078 to 0·081 (dog).
Otto	0·10 „ 0·14 „
Seegen	0·15 „ 0·19 (man).
Frerichs	0·12 „ 0·3 „

According to Seegen, the amount present in mild cases of diabetes does not exceed the normal, but in severe cases it may rise as high as 0·4 parts per cent. The alkalinity of the blood serum is reduced, owing to the presence of certain organic acids of doubtful identity, of which diacetic acid and β-oxybutyric acid seem the most probable. The existence of acetone is disputed, as former reports of its presence are believed to be due to the breaking up of diacetic acid to form acetone and carbonic acid gas. In certain experiments conducted by me some years ago in the laboratory of Professor Tilden, at Mason College, I was unable to detect any acetone in the blood of a diabetic patient who had died of coma.

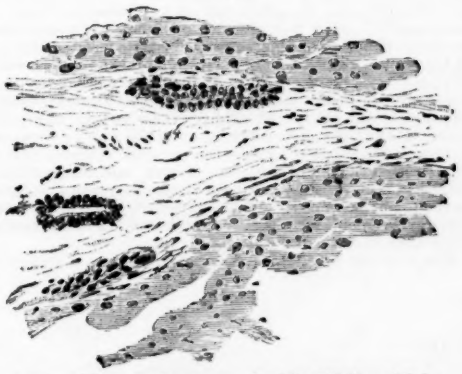
THE RESPIRATORY SYSTEM.

Lungs.—Pathological alterations in the lungs are the rule in diabetics, and perhaps no organ shows more constant changes. In my cases 17 per cent. only were free from disease. The most common condition was congestion, or congestion and œdema. The next most frequent alteration was phthisis, which was present in 27 per cent. Small foci of softening were observed in one case, abscess in one, hæmorrhagic infarcts in one, and gangrene also in one. Dreschfeld has described the following types of lung affection in diabetes: (1) Acute croupous pneumonia, very acute and fatal, but rare; (2) acute broncho-pneumonia, which may terminate by gangrene; (3) chronic caseating tubercular broncho-pneumonia, the common form of diabetic lung complication; (4) chronic non-tubercular broncho-pneumonia; (5) gangrene of the lung. Fink recognises two forms of diabetic phthisis: (1) Tubercular and (2) fibroid. In the latter there are no tubercle bacilli in the sputa or lung, no caseous deposits, and the lung undergoes chronic induration. Pleurisy and empyema occur rarely. Fat embolisms have been described as playing an important part in the pathology of diabetic coma (Sanders and Hamilton), but it is doubtful if they are not post-mortem formations, due to the running together of the fat which was previously held suspended in a molecular state, and in any case they are not present in such numbers as to give rise to any symptoms (Saundby and Barling). The vessels of the lungs have been described as undergoing hyaline and fibroid thickening; but this is not a primary change, or one in any way peculiar to diabetes.

THE DIGESTIVE SYSTEM.

Liver.—Great interest attaches to this organ, because of its physiological relations to sugar formation. An opinion was at one time held, and has been expressed by recognised authorities, that the liver in diabetes is usually healthy, and even a more than usually healthy appearance has been described as characteristic of it. In my experience this is a very erroneous view. The liver is generally enlarged, weighing from 60 to 80 ounces. In a smaller number it is small, pale, and soft. Fatty degeneration is very common; congestion is often observed; the consistence of the organ is sometimes abnormally firm. A certain degree of interstitial hepatitis is frequently present, and occasionally this goes so far as to produce distinct cirrhosis. This is attributed by Letulle to the effect of the abnormal destruction of hæmocytes. Hanot and Schachman have also described this form of cirrhosis. The liver is sometimes smooth, at others granular and scarred. The lesion begins, according to these observers, around the radicals of the hepatic vein, but Brault and Gaillard point out, in my opinion rightly, that the new growth begins in both the hepatic and portal areas. This form of cirrhosis is associated with bronzing of the skin. Some degree of interstitial hepatitis may, however, be seen without any evidence of pigmentary deposit in the liver or the integument. (Fig. 3.) This drawing shows very well marked commencing cirrhosis in a diabetic liver. Abscess of the liver is sometimes met with associated with diabetes. I remember one such case when I was a pathologist, and I believe the case presented all the phenomena of severe diabetes. The liver contained one large abscess and numerous smaller ones. A similar case was reported in the U.S. Navy Reports for 1878. It is permissible to believe that the abscess in these instances

FIG. 3.



Section of liver showing commencing interstitial hepatitis in a portal canal. Two newly formed biliary canaliculi are seen near the edges of the acini. (Hartnack, oc. 3, obj. 7. Tube drawn out.)

was really the cause of the diabetes. Dickinson has described thrombosis of the branches of the portal vein, and angiomata formed of dilated capillaries near the radicals of the hepatic vein. In spite of its fatty appearance Weyl and Apt have not found the diabetic liver to contain an excessive amount of fat:—

Normal liver	3·70 pts. per mille.
Diabetic liver	3·75 „ „

Moreover, absence of fat from the liver cells has been observed by Beale and Frerichs. Quincke described excess of iron in the liver, deposited in the form of granules. Zaleski has not observed it in granular form; he estimates the diabetic liver to contain 0·685 parts of iron per mille, but he points out that we have no data to enable this to be compared with the normal quantity.

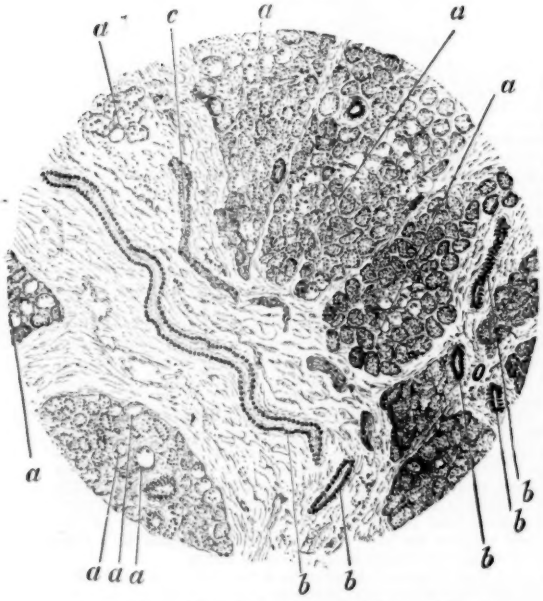
Spleen.—This organ is very frequently described as normal, but the most common naked-eye change is that it is small, pale, and soft. It is more rarely enlarged and congested, and sometimes contains tubercle. It is said to contain excess of iron (Quincke), but, as already explained, data are wanting as to the amount present in health. Glycogen has also been found in it. Hyaline degeneration of the small arteries has been described, but I have not been able to perceive anything abnormal about them.

Pancreas.—Since Lancereaux drew attention to the frequency with which the pancreas is atrophied in diabetes, and went so far as to associate the clinical type of *diabète maigre* with this lesion, the changes in this organ have been interesting; but they are especially so since the experiments of Minkowski, Lépine, and others have shown that extirpation of the pancreas in animals is followed by glycosuria. This organ is by no means so carefully examined by pathologists as it deserves to be, and there is wanting that familiarity with its ordinary naked-eye and microscopic appearances which gives value to their descriptions. In many cases no note of its condition has been made. Out of fifteen cases it was atrophied in seven and abnormally firm or fibroid in four, while it was normal in only four. In two of the cases in which it was hard it was also enlarged. So far as my own observations go, I am disposed to agree with Lancereaux, as I have found the pancreas shrunken in all my cases of typical wasting diabetes. That the pancreas stands in some relation to diabetes is shown by the experience of Bull of New York, whose patient died of diabetes after he had extirpated the pancreas. Duffey has published a case of diabetes associated with cancer of the pancreas; on the other hand, in the cases of pancreatic disease collected by Dr. Handfield Jones, and more recently by another distinguished Fellow of this College, Dr. Norman Moore, there

is no mention of diabetes.[1] Cyr thinks the atrophy is secondary, and only a result of the general failure of nutrition. Ligature of the duct, and even extirpation of the gland, have not always been followed by diabetes; but the force of this objection is removed by the observation that a small part of the pancreas, if left behind, is capable of supplying the necessary ferment (?). Various theories have been put forward to account for the action of the pancreas. It has been suggested that the pancreas supplies the liver with the fatty acids necessary to the formation of bile acids from glycogen; hence, in affections of the pancreas there is excess of glycogen with resulting diabetes (Popper); excessive production of glucose from diastatic ferments formed in the stomach and duodenum (Bouchardat): the formation of paraglucose by the action of modified pancreatic juice (Cantani); the absorption of the pancreatic ferment, which, passing direct to the liver, changes the glycogen to glucose (Baumel); and the suppression of a normal sugar-destroying ferment which should pass by the pancreatic lymphatics to mingle with the chyle (Lépine). Brault and Gaillard have described a pigmentary cirrhosis of the pancreas analogous to the pigmentary cirrhosis of the liver observed in diabetes. Pancreatic calculi may cause cystic formation or sclerosis or complete adipose transformation.

The drawing (Fig. 4) is a low-power view of a portion of

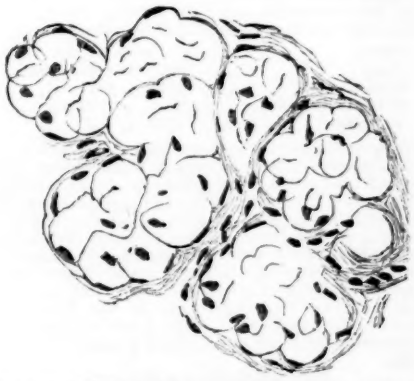
FIG. 4.



Section of atrophic cirrhotic pancreas, showing great increase of connective tissue, with *a* hyaline degeneration of glandular epithelium, *b* newly formed ducts, and *c* ducts undergoing atrophy. (Hartnack, oc. 2, obj. 4. Tube drawn out.)

pancreas, showing great increase of connective tissue with a new formation (?) of ducts and a hyaline degeneration of the pancreatic glandular epithelium. The portions of gland affected by this last lesion seem to become converted into swollen convoluted masses of translucent material containing a few pale nuclei, and bounded by a layer of flattened endothelial cells, whose nuclei seen edgeways look like spindle cells (Fig. 5). It is evident that there are two processes going on in the gland: (1) of degeneration of the gland elements, closely resembling that to be described in the epithelium of the kidneys, which is apparently peculiar to diabetes; and (2) an increase of fibrous tissue with destruction of the gland analogous to cirrhosis of the liver. This process is undoubtedly inflammation and not simple atrophy. In the earlier stages of the process the gland is swollen from abundant infiltration of its tissue with round cells.

FIG. 5.



Highly magnified view of a group of pancreatic acini which has undergone hyaline degeneration. (Hartnack, oc. 3, obj. 7. Tube drawn out.)

A section of such a swollen pancreas, obtained from a case of rather acute diabetes, is shown under one of the microscopes. (Fig. 6.) It has been suggested that the atrophy

FIG. 6.

Section of enlarged acid pancreas showing commencing cirrhosis with infiltration of the connective tissue spaces by round cells. (Hartnack, oc. 2, obj. 4. Tube drawn out.)

of the pancreas may be secondary to disease of the cœliac plexus; but Lustig found that extirpation of this plexus was not followed by atrophy of the pancreas; and this has been confirmed by Peiper.

Stomach.—It is unfortunate that the stomach is often omitted in post-mortem reports. I have notes of its condition in only eleven cases, but it is significant that in only one instance was it found to present no morbid alteration. In three cases it was dilated, in three there were hæmorrhages generally near the pyloric end, in two the mucous lining was congested, in one softened, and in one in a state

[1] In a recent article (Aug. 2nd) the editor of the Philadelphia Medical News refers to a case of cystic disease of the pancreas from a case of diabetes exhibited by Longstreth in 1877, and to one of multiple pancreatic abscesses with glycosuria reported by Frison in 1875; on the other hand, he states that Langenhans has recently published a case of necrosis of the pancreas in which there was no sugar in the urine.

of chronic catarrh. Windle speaks of "thickening" of the mucous membrane as not uncommon, and also of distension of the organ by gas.

Intestines.—The large bowel is generally found filled with hardened fæcal masses, and congestion or catarrhal conditions of the mucous membrane are not uncommon. Hæmorrhages similar to those in the stomach also occur in the duodenum. In two instances large masses of tenia medio-canellata were present. The mesenteric glands were twice found to be enlarged. Frerichs has described a dysenteric condition of the large intestine, and Ebstein desquamation of the epithelium lining the bowel.

GENITO-URINARY SYSTEM.

Kidneys.—In not one of my cases were the kidneys described as normal, though in many the changes were not of great importance. The most common condition appears to be a slight degree of fatty degeneration. This comes out in Windle's tables as well as my own. Such kidneys are generally enlarged, and their capsules are often adherent. Less commonly the kidneys are enlarged and congested. Sometimes there is thinning of the cortex, or distinct contraction of the organ. Tubercle and lardaceous disease occur occasionally, and the kidney may become gangrenous (Turner). The above-mentioned fatty change has been described specially by Fichtner, who regards it as characteristic of diabetes. But the most interesting histological fact in the diabetic kidney is the hyaline degeneration of the tubular epithelium, which was first described by Armanni. His observations were confirmed by Ebstein, who assigned the seat of the lesion to the descending limb of Henle's tubes; but this was disputed by Ferraro, who, however, found the change nowhere outside the medullary portion of the kidney. This last observer attributed the changes to a primary lesion of the vascular walls. These changes in the epithelium and the co-existing hyaline changes in the vessels were well described by a distinguished Fellow of this College, Dr. Stephen Mackenzie, in opening a discussion at the Pathological Society of London in 1883. Ehrlich also described, "as characteristic of and peculiar to diabetes," a hyaline degeneration of the epithelium of that part of the kidney between the cortex and the pyramid—that is, the boundary zone; and Strauss proved that this lesion is identical with that described by Armanni. Strauss found that it was only present in one out of three cases, but he agreed that it is absolutely characteristic of diabetes, and he attributed it to the osmosis of sugar into the cells. Ehrlich considered that the change was due to glycogenic infiltration of the cells, but Strauss, in a later paper, says that no glycogen may be visible, even when all Ehrlich's precautions are taken. With reference to its causation, Albertoni and Pisenti have investigated the changes produced by administering small doses of acetone to rabbits. They found the following lesions: (1) granular degeneration of the epithelium of the convoluted tubes, the nuclei still staining well; (2) complete destruction of the epithelium with disappearance of the nuclei, and slight dilatation of Bowman's capsules; the glomeruli and connective tissue were not affected. They suggest the possibility that the necrosis of the epithelium observed by Ebstein may be due to the action of acetone on the kidneys. Stokvis, too, found that artificial diabetes, produced by injecting grape sugar into the blood, caused albuminuria; and he believes that this sets up a chronic nephritis. Both these are possible explanations of the fatty change already alluded to, which is entirely like that of slight chronic parenchymatous nephritis due to infective disease; but they do not throw any light upon this peculiar and characteristic hyaline change. My observations entirely confirm the existence of this hyaline degeneration and its restriction to the epithelium of Henle's tubes. It is well shown in the illustration (Fig. 7), and is quite different from the glycogenic infiltration which may also be present, as shown in the drawing (Fig. 8), though this fails to bring out the characteristic mahogany staining of the glycogen granules. The kidneys, like many other organs in diabetes, may present marked fatty degeneration (Fig. 9), droplets staining black with osmic acid being abundantly visible within the epithelial cells and free in the lumina of the tubules, the straight tubules being chiefly affected. Not uncommonly the kidneys present all the characteristic features of chronic diffuse nephritis, as is illustrated by one of the microscopic specimens.

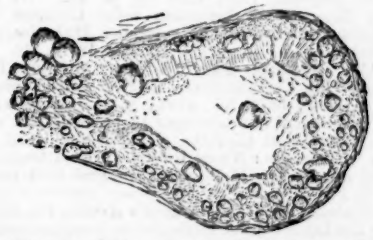
Bladder.—This organ is usually normal, but it is often dilated and hypertrophied. The mucous lining sometimes may be the seat of hæmorrhages.

Ovaries.—Israel has described a case in which there was gangrene of both ovaries associated with recent general peritonitis. These organs have also been described as cystic and atrophied, but these are common conditions, and not in any way specially associated with diabetes.

FIG. 7.

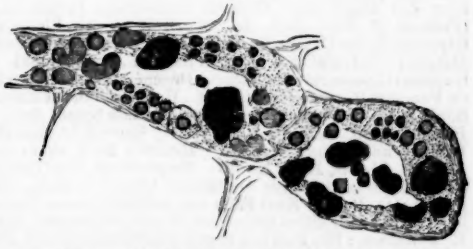
Portion of Henle's looped tube, showing hyaline degeneration of the epithelium. (Armanni's lesion, Hartnack, oc. 2, obj. 7. Tube drawn out.)

FIG. 8.



Renal tubule showing masses of glycogen within the epithelial cells or free. (Hartnack, oc. 3, obj. 7. Tube drawn out.)

FIG. 9.



Portion of renal tubule showing fat droplets, stained black with osmic acid, lying within the epithelial cells or free in the lumen. (Hartnack, oc. 3, obj. 7. Tube drawn out.)

Concluding remarks.—It is very plain that diabetes, far from having no morbid anatomy, has one of a very complicated kind, and one that cannot be without bearing upon its pathology. The most important lesion is, in my opinion, the wasting of the pancreas; but it is not until this organ has been carefully examined in a larger series of cases than I have been able to collect that we shall be in a position to speak definitely as to its pathological position and value. Of great importance, too, are the changes in the abdominal sympathetic ganglia, though they are too inconstant to form the basis of a satisfactory theory. The liver changes are probably altogether secondary to a functional hyperæmia induced under nervous influence. The other changes in kidneys, lungs, heart, and brain are merely the results of defective nutrition and of long-standing hyperglycæmia. But the morbid anatomy of diabetes is not yet completed, as is shown by our imperfect knowledge of the state of the pancreas. Unfortunately diabetes is a rare disease even in our great hospitals, hence it is a work of many years to accumulate a series of carefully observed cases, so that with our custom of holding pathological appointments only for a few years, few of us get the opportunity of doing so. I have to express my thanks to the late Pathologist to the General Hospital, Dr. G. F. Crooke, and to his successor, Dr. Ratcliffe, for the assistance they have given me in this work in many ways, and especially in cutting and mounting microscopic sections.

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Clinical Lecture
ON
A CASE OF TAILOR'S CRAMP, AND OTHER TROUBLES AFFECTING THE FUNCTIONS OF THE HAND.

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(*Concluded from page 329.*)

CASE 3.—The next case I have to bring to your notice is one in which a man has been rendered unfit for following his trade owing to the toxic effects of the trade which he follows. It is, in short, a case of mercurial tremor. The patient is an Italian aged sixty-two. He came to this country when he was seventeen years old, and for the past thirty-four years he has been a looking-glass silverer. His duty is to "run" the mercury over tinfoils spread upon sheets of glass. He is, therefore, constantly handling mercury, and is exposed to its fumes. He is a strongly-built, dark haired, olive-complexioned man, of cheerful manner and well nourished. He is hard working and temperate, and there are no facts in his imperfect family history which have any bearing upon his present condition. A careful medical examination leads to the conclusion that, with the exception of the tremor, the patient is in perfect health. The tremor affects the hands mainly and the right hand more than the left. When the patient is at rest the hands and arms are steady, but the instant that he attempts to use the hands the trembling and shaking become excessive. He cannot pick up a scrap of paper, he cannot feed himself, and is obliged to drink through a glass tube owing to the impossibility of holding a cup steadily to his lips. There is some slight tremor of the legs, but this is scarcely noticeable, and does not prevent him from walking freely about. There is no tremor of the face or tongue, and no marked change of speech. The eyesight is good; no nystagmus; no change in the discs. Turning to the hands, it is noticeable that the tremor is very coarse, and that when he attempts to use his hands they jerk to and fro through several inches of space. There is no wasting or paralysis of any muscle, no rigidity or contraction of any muscle, and no deformity of the hand. There is no marked tenderness of any nerve, no joint affection, no trophic change, and the muscles respond normally to electricity. This apparently is the third attack of "the trembles" from which the patient has suffered. The first was twenty-six years ago, and his arms, legs, and head shook equally. He was treated for thirteen weeks in the London Hospital and completely recovered. About eight years after the first attack (i.e., eighteen years ago) he had a second attack. In this the legs were mainly affected, and occasionally trembled to such a degree that he was obliged to crawl upon his hands and knees. The arms were also affected, but less so than on the present occasion, for he could always feed himself. At this time he lost several of the teeth, the gums were ulcerated, and there was tremor of the tongue and an affection of the speech so that he could hardly get his words out. From this second attack he also completely recovered and returned to his work. He was able to follow his occupation (except during a short attack of "lumbago" some eight years ago) until Christmas, 1888, when his arms began to tremble, and, his troubles increasing, he ultimately sought advice here, and after some three weeks' attendance in the out-patient department he was admitted as an in-patient at the end of February, 1889. Our patient was treated with hot sulphur baths and iodide of potassium, and left the hospital much improved and able to feed himself, but still far from well. Cases of mercurial tremor are of rare occurrence in this country, although cases are met with among workmen whose occupation brings them in contact with mercury or its salts. The danger appears to be greatest in those cases where (as in "water gilding") heat is employed to volatilise the metal; but, now that electro-plating has supplanted gilding by means of mercurial amalgams, such cases are rarely seen. Our patient is a mirror maker, and therefore belongs to a class of workmen who have always been recognised as liable, but not very liable, to chronic mercurial poisoning. Mirrors are, however, made largely now by means of chemical methods, in which the salts of silver and not those of mercury are employed, and mirror-makers by the old-fashioned method of using a tin-mercury amalgam are a dwindling class. Rare as these cases are, they are likely, therefore, to become more rare. The point of main interest in the case is the *diagnosis*. This is made for us to a large extent by a knowledge that the patient is exposed to mercurial fumes in his business, and by the patient's own experience, this being the third attack of "the trembles" from which he has suffered. But, without the history to guide us, should we feel sure as to the diagnosis? The tremor in this case is the only symptom of mercurialism, and is the tremor sufficiently characteristic to warrant us in attributing it to that cause? The tremor began in the hands, and is mainly limited to the hands. This is said to be characteristic of mercurial tremor, although it is no absolute rule, for even in this patient's previous attacks the legs mainly suffered upon one occasion, and upon another the head trembled and speech was affected, which is not the case now; for, although the patient speaks English like an Italian, there is no other peculiarity of articulation. The tremor is so coarse, jerking, and peculiar that it does not suggest tremor from alcohol, paralysis agitans, senile weakness, or "general paralysis." It only occurs when the patient attempts to use the hand for the purpose of a voluntary act. In this particular it resembles the tremor seen in cases of so-called "disseminated or insular sclerosis," and the diagnosis, judging only by the tremor, would be between that condition and mercurialism. That the tremor of disseminated sclerosis and mercurialism may be practically identical in form seems to be admitted by Charcot and other observers. The age of our patient is against the diagnosis of disseminated sclerosis, that disease seldom commencing after forty, and terminating fatally within a few years of its commencement. The absence of nystagmus is also against the diagnosis of disseminated sclerosis, as is also the fact that the superficial and deep reflexes are in the present case practically normal instead of being exaggerated, as is often the case in disseminated sclerosis. The absence of any speech difficulty is against the diagnosis of disseminated sclerosis, but since its absence is, so to say, merely accidental, and his present attack differs from his last in this particular, this is a point of not much value. Speech is often affected in both these conditions, so that changes in articulation are of doubtful value in the differential diagnosis of the two conditions.

CASE 4.—The last case is that of a mat-maker aged forty who was admitted to the hospital with his left arm stiff, contracted, and absolutely useless, so that he is quite unable to follow his occupation. On examining the arm it was found to be contracted and stiff. The humerus was adducted to the side of the chest, the elbow flexed, and the wrist and fingers flexed. On attempting to move the limb passively it was found that all the joints were very stiff, and creaked audibly. The power of voluntary movement was almost *nil*. Sensation but little impaired. The state of nutrition of the left arm and hand, especially the latter, was obviously defective. The limb as a whole was emaciated. All the muscles were small, but there was no muscle or group of muscles which was atrophied in any special degree. The left hand was very markedly smaller than its fellow, the skin harsh and dry, the finger-nails deeply grooved, pitted, and incurved. The state of the hand and the contrast in the two hands are well shown in the accompanying drawings kindly made for me by Mr. Wells, M.B. (See Figs. 2 and 3.) The sensibility of the left arm and hand is slightly impaired. All the muscles of the left hand and arm respond normally to faradisation. With the exception of the arm the patient appeared healthy. He was somewhat thin, but all the organs appeared to be in a normal condition. It is not possible to form a judgment as to the pathology of this man's condition without reference to the history. The patient has had four attacks of rheumatic fever—viz., in 1876, 1879, 1881, and 1885, and it was after the last attack that the left arm and hand became stiff and powerless. The history of his last attack is very important, and I may add that it was elicited only after careful questioning—questioning which was instituted because (as will be presently explained) the condition of the left hand and arm was suggestive of cerebral mischief.

The patient lives at Sudbury in Suffolk, and he states that on March 18th, 1885, he felt "dizzy" before going to his work, that he had to leave his work because he felt ill; and that on his way home he sat by the roadside, and *lost consciousness for two hours* in consequence, as he says, of faintness. This attack was followed by the "rheumatics," which kept him in bed. The left arm was swollen, and remained so for three weeks, and when the swelling subsided the arm was stiff and the fingers contracted. The patient further states that at this time he had some loss of taste on the left side of the tongue, some numbness of the head, and some impairment of vision. It is all-important to bear in mind that the condition of the left arm from which this patient is suffering, although originating in a condition of obvious rheumatic swelling, came on after an attack of loss of consciousness, which was immediately followed by sensory troubles. I do not think that the cause of the arm trouble in this case is purely local and rheumatic, but I am of opinion that there is cerebral mischief as well, and that one element (perhaps the most important element) of the conditions is hemiplegic contracture; and I say this notwithstanding that the evidence of hemiplegia other than the

FIG. 2.

FIG. 3.

state of the arm is practically *nil*, and there is no cardiac murmur, which might suggest the probability of embolism as a cause of the trouble. This question is of great importance from the point of view of prognosis. If the trouble be local and rheumatic there are possibilities of absolute cure, which can hardly exist if the voluntary centre for the arm be destroyed. Why, it will be asked, do I think that there is cerebral mischief? Because the left upper limb has all the appearance of "contracture" after cerebral lesions. The arm is adducted, and the whole limb is uniformly flexed, and an examination of the hand shows that the fingers can be easily straightened, the contracture being due to a shortening of the flexor muscles, and not to any stiffening or deformity of the finger-joints. Again, all the muscles respond normally to faradisation, and there is no marked wasting of any of them, although there is general emaciation of the whole limb. In cases of old rheumatic paralysis due to the involvement of nerve trunks in rheumatic exudations, it is usual to find that some of the muscles are markedly atrophied, and give degenerative reactions. The condition of the arms without a word of history would lead one to suspect a central cause for the mischief. When to this is added "faintness" and loss of consciousness as the initial feature of the trouble, I think there is scarcely room to doubt. On the other hand, there are features in this case which seem to show that hemiplegic contracture, if such it be, is complicated by a distinct local rheumatic condition. We have the history of a swelling of the left arm and hand in his last attack of rheumatism, and we find now that there is a marked amount of stiffness of the big joints of the limb and audible creaking when they are forcibly moved. All joints which are not sufficiently used, and which are maintained in the same position, are apt to get stiff, and to creak when forcible movements are imposed upon them; but in this case there has probably been definite rheumatic exudation, as we gather from the history and infer from the degree of stiffness. There are other considerations which warrant us in believing that at some time the nerve trunks which cross the scapulo-humeral joint were to some extent involved in and compressed by rheumatic exudation. My chief reason for this belief is the condition of the hand. The wasting of it is greater than is usually the case in cases of hemiplegia; and the condition of the finger-nails, which are markedly grooved and pitted and incurved, is very suggestive of a true tropho-neurosis or a change in nutrition brought about by pressure on or injury to a mixed nerve. There is some harshness and dryness of the skin of the left arm and hand and also some slight impairment of common sensibility which point in the same direction. We must remember that the last rheumatic attack was more than four years ago, so that time enough has been allowed for rheumatic exudations to be absorbed and for recovery of damaged nerve to take place, so that I regard the condition of the nails and the excessive wasting of the hand as evidence of what has been rather than of what actually exists at present.

The case is not without its difficulties, but to sum up, I may state my belief that the condition of this patient's left hand and arm is partly due to a cerebral damage and partly to a local rheumatic trouble. What was the nature of the cerebral mischief? As it occurred at the commencement of a fourth attack of acute rheumatism it very possibly was embolic, although at the present there is absolutely no evidence of any morbid condition of the heart. We are free to imagine a slight degree of hyper-

æmia and swelling of a valve sufficient to give rise to a deposit of fibrin, and we can imagine such deposit being washed off and lodging in one of the branches of the Sylvian artery, giving us a "brachial monoplegia" and leaving the heart practically sound. I say we can imagine this, and there is no harm in doing so if we distinguish between imaginings and proved facts. The case presents difficulties from every point of view, but these speculations are by no means idle because they have a most important bearing on the prognosis, as I have explained. The results of treatment in the case under consideration have been most excellent up to a certain point. When we have to do with a limb which is stiffened, wasted, and beyond, so to say, the reach of the will, our chief aim should be to replace voluntary exercise by every means which is available, and passive movements, rubbing, artificial warmth, and electricity will be found of service. With a limb in the condition of the one we are considering the worse course to pursue is to leave it alone, for it will inevitably result that the disused joints will get, so to say, glued up, and the limb will soon assume a position of stiffened contracture, as has happened in the case under consideration. Every joint must be methodically worked in every direction so as to maintain absolute freedom of movement. I do not think that, unless the stiffness be very excessive, much good is got by forcible movement under an anæsthetic. If, after such forcible movement, daily exercises and passive movements be not persisted in the joint will soon be glued up as tightly as before, and since the daily exercises are in any case necessary it is generally advisable to trust to these alone, and to a moderately forcible and judicious coaxing of the stiffened limb, rather than a too forcible extension. This has been done in the present case with admirable zeal by my clinical clerk, and with the best results, as the stiffness and creaking of the joints have disappeared, and the freedom of movement of shoulder, elbow, wrist, and finger-joints has been greatly increased. The next point is to improve the nutrition of the limb, and this is done by causing a "determination of blood" to it. The passive movements of the joints have done much to quicken the blood stream. In fixed limbs the venous current does not receive the help of movement, whether articular or muscular, and the passive movements of the joints and the kneading of the muscles do much to counteract the evils of this deficiency. Artificial warmth is all-important in improving the nutrition, and to warmth should be added a stimulation of the skin sufficient to produce a thorough redness of the surface. Such a limb should be kept in a flannel sleeve, and the hand should be covered with a warm glove so as to run no risk of its getting chilled. Warm bathing is also of great use, and when the trouble is strictly local, as in this case, a soaking of the limb in hot water is of service, the soaking being followed by passive movements and massage. It is of some use, probably, to add salt to the water, as thereby its stimulating effect upon the surface is increased. Had our patient been rich he would very probably have been sent to Bath, Aix-les-Bains, or some similar place, where the machinery for bathing and rubbing and douching has been elaborated to the utmost; but I would have you observe that it is possible to do a great deal by similar methods employed *with a will* at home.

Electricity is of great service in these cases. If the irritability of the muscles is lessened the application of faradisation is often very useful, and it should be employed until the irritability reaches the normal. There has been no noticeable diminution of irritability in this case, and none of the muscles give the "degenerative reactions," so that the good effects of faradisation have not been as noticeable as sometimes is the case. The good effects of faradisation are, in cases like this, often very marked at first. By its use we succeed in "stirring up" the disused muscles, and greatly increased freedom of movement is the result. The effect of the first application is often very marked, occasionally it is astounding, while subsequent applications produce hardly any noticeable effect. The continuous current is also extremely serviceable. Large sponge rheophores should be used, and these should be moistened with salt-and-water made as hot as it can be borne. I know of nothing equal to this as an effectual skin reddener, and it is undoubtedly to its power in this direction—the causing a "determination of blood" to the limb—that much of the utility of the continuous current is due. Cases of this class are often very chronic. Chronic rheumatic affections are very prone to last (with considerable exacerbations and remissions) for a lifetime, and contractures following upon cerebral lesions will certainly do so. The patient's discomforts are very much lessened if we can maintain the nutrition and the suppleness of the limb. This is done by the methods I have indicated, and it is very advisable to use one method at a time and not to exhaust your resources all at once. Human nature loves a change, and will have a variety, and far be it from me to say that change and variety are not of solid use. We all strive to get, and all enjoy, a change in the matter of diet, and that much in excess of what the physiologists tell us is necessary. So the chronic invalid, the nutrition of whose paralysed or rheumatic limb has to be artificially maintained, will have a change of method. It is, therefore, advisable to use one method at a time. Massage, hot bathing, electricity, liniments, &c., are all means of maintaining nutrition, and when the patient has tired of one method we may try a second. As soon as the limb is left to itself it will stiffen and get glued up and fixed. The great use of liniments in such cases is found in the fact that they are all so to say vehicles for friction. The only thing to bear in mind about them is that they should be oily and not too stimulating. Great care must be taken that no excess of zeal in the matter of rubbing produces any abrasion of the skin, and it is in order to avoid the risk of skin abrasion that I recommend the use of oily liniments which serve to lubricate the surface. It is needless to say that the patient should be encouraged to use the damaged limb as much as possible, and the exercises prescribed will of course depend upon the amount of voluntary power. In order to keep the shoulder- and elbow-joints supple it is a good plan to get the patient to work the limb by means of an elastic band with a stirrup handle, which must be hung to the ceiling or the wall of his room. With methods like those I have been describing our patient has improved very rapidly indeed *up to a certain point*. The joints move easily, and the contraction of the arm and fingers has disappeared. His power of using the limb has not kept pace with the greatly improved local condition, and it is this fact which strengthens and confirms me in the diagnosis of a central cerebral lesion in addition to his local rheumatism. By local measures we may succeed, as we have done, in loosening stiffened joints and in improving local nutrition. There is, however, the scar of an old injury in the area for the arm in the motor region of the cortex cerebri on the right side. This is not to be reached by our rubbings, frictions, and electricity, and although the local improvement has been immense, there has not been and never will be any commensurate improvement in the voluntary use of the limb. It is easy, therefore, to see the great importance of diagnosis and its influence on prognosis.

ON TOTAL EXTIRPATION OF THE UTERUS BY THE VAGINA.[1]

BY JOHN WILLIAMS, M.D., F.R.C.P.

CANCER of the uterus *per se* is an indication for total extirpation of the organ, and yet all such cases are not fit subjects for the operation. There are several considerations which show this. Total extirpation is an operation which should be undertaken with a view to radical cure only. It is of too grave and mutilating a character to be adopted as a merely palliative measure. All cases, therefore, in which it is clear that the disease cannot be entirely removed are unsuitable for the procedure, so that in those cases in which the growth has invaded neighbouring organs—the bladder, rectum, vagina, broad ligaments, or intestines—the operation is out of the question. This one consideration, unfortunately, sweeps off as unfit subjects for total extirpation the great majority of the cases of cancer of the uterus which present themselves at our hospitals. We are consulted when the disease is so far advanced as to render radical measures impossible. With regard to the remaining cases, it is necessary to enter into some particulars—particulars of diagnosis, seat of origin of

[1] Being the address opening the discussion on the subject at the International Medical Congress, Berlin.

the disease, degree of extension of the growth, the presence or absence of secondary growths, the possibility of the removal of the organ by the vagina, and the condition of the general health. Cancer may originate in the uterus in one of three places—in the body, the cervix, or the vaginal portion of the cervix. The history and character of the growth differ according to the part which is first attacked, and from them certain indications for operative interference may be obtained.

In cancer of the body of the uterus the operation is indicated, inasmuch as no other measure is capable of removing the disease. Yet all cases, even of this form of cancer, are not fit subjects for the surgeon's skill. The operation should be undertaken only when the whole of the diseased tissue can be removed; in the early stages, therefore, before the parametric tissues and the peritoneum have been invaded or infected. This involves much more than mobility, and even free mobility, of the uterus, and I shall refer to this again when speaking of the diagnosis of the conditions in which operative interference is indicated. Adhesions between the uterus and neighbouring organs may be present. They may be cancerous or simply inflammatory. When they are cancerous the disease will have attained an advanced stage, and there will be other evidence of this: in the broad ligaments in the form of thickening or glandular swellings, and in the cavity of the uterus which may have been converted into a foul abscess. Occasionally, however, cancerous adhesions may have formed between the uterus and the intestine without giving direct evidence of their presence. The difficulty of distinguishing between adhesions due to cancer from those due to simple inflammation is great, and I know of no way of overcoming it except in some cases in which adhesions were known to exist before the development of the malignant disease. For the operation of total extirpation by the vagina which is now being discussed, the volume of the uterus gives important indications. In cancer of the body the organ varies much in size. It may be little bigger than the uterus frequently met with in a multiparous woman, or it may be so large as to project above the pelvic brim and reach to the umbilicus. When the increase in volume is such that the fundus does not rise above the pelvic brim, the organ can be removed by the vagina, but when the organ is so large as to reach the umbilicus total extirpation by the vagina becomes impossible. What, then, are the exact limits of size which contraindicate extirpatio uteri vaginalis?

It is with regard to the indications for the operation in cancer of the cervix and of the vaginal portion that opinions differ most widely. Is the operation indicated in these forms of the disease? and, if indicated, under what circumstances? Much has been said and written upon this part of the subject, and diverse opinions held and expressed. The true answer to these questions must depend upon an elaborate inquiry of two kinds—anatomical and clinical. The anatomical and clinical history of cancer of these parts must be known before a final reply to these questions is possible. Anatomical research must be conducted under two conditions: (1) When the disease has been allowed to run its course without surgical interference, and (2) when the minor operation—supra vaginal amputation of the cervix with or without the help of the ferrum candens—has been resorted to. These methods will complement each other, and both will supply us with valuable indications. But the first inquiry is, What is the anatomical history of cancer of the cervix when left to itself? The starting-point of cancer of the cervix is usually the glands, perhaps the deeper parts of the glands. This is proved by those cases in which, over a mass of cancer lodged in the substance of the cervix, the epithelium lining the cervical canal remains intact. This is no uncommon occurrence. Again, the seat of origin of the disease may be a point in the upper half of the cervix near the inner orifice, or a point in the lower half near the outer orifice. The lower starting-point appears to be the most favoured, while the cases in which the disease begins in the upper half appear to be somewhat rare. Does cancer ever begin in the superficial epithelium lining the cervical canal? It probably does, while it is certain that it may commence in the bottom of the spaces between the papillæ. The course of the disease, the direction of its growth, when it owns the latter origin, have not been worked out. What is the direction of its growth when it commences in the glands of the cervix? Does it tend to invade the body or the circum-cervical tissues? When the body of the uterus is affected, in what manner is the invasion brought about? Is it by direct extension from the cervix, or by secondary deposit, or by a synchronous development of cancer in the body and the cervix, or is it indirectly through the medium of the circum-cervical tissues? And, finally, at what period of the disease does the body become affected? Is it before or after infection of the parametric tissue has taken place?

All these questions have an important bearing upon the indications for total extirpation. The usual tendency of this form of cancer, be its starting-point near the inner or near the outer orifice, is to involve the whole thickness and length of the cervix, and to pass through the cervix into the circum-cervical tissues, but respecting for a time the inner orifice. When it begins near the outer orifice, it spreads outwards and upwards respecting the squamous epithelium covering the vaginal portion, but hastening into the connective tissue around the cervix. When it begins near the inner orifice its tendency is to grow outwards towards the connective tissue and downwards, but not upwards. The connective tissue is invaded before the body is attacked and before the epithelium covering the vaginal portion is destroyed and ulceration takes place. That the body becomes affected at some period of the disease is, however, sufficiently evident. Abundant proof of it is found in every hospital museum. In these museum specimens, however, is it not the case that the circum-cervical tissues are everywhere cancerous and breaking down, that the parametric tissues in the broad ligaments and the outer surface of the uterus, almost as far as the insertion of the Fallopian tubes, are involved, that the cervix and the circum-cervical tissues have largely sloughed or ulcerated away, and that the lower portion of the body dips into a sloughing cavity formed by the destruction of not the cervix only, but also of the parts around? This appears to show that in the later stages of the disease extension into the body takes place directly, but it shows further that this extension is preceded by indirect extension to the outer surface of the body through the medium of the connective tissue around. The outer surface of the body—the sides especially—is affected earlier and to a higher point than the inner. Are there exceptions to this general conduct of cancer of the cervix? There appear to be rare instances in which the disease extends superficially along the epithelium into the body, and this possibly occurs in those cases in which the disease begins in the superficial epithelium of the cervix.

There are other cases in which cancerous masses or nodules are found in the inner superficial layers of the body, together with an early stage of cancer of the cervix. These nodules are isolated, and cannot be due to direct extension from the cervix. Two views may be held with regard to them. One is that they are secondary deposits, the primary disease being that in the cervix. It is difficult to understand how secondary deposits can be formed in that situation. The other, and the view which appears more probable, is that these nodules are new formations, independent of the cervical disease. They are not common. But what is the anatomical history of the disease after supra-vaginal amputation of the cervix? What is the seat of recurrence, and what is the direction of its growth? Recurrence takes place in the great majority of cases within a limited time. Its usual seat, however, is not the stump of the uterus, but the connective tissue. The cancer grows rapidly in this tissue, and spreads upwards into the broad ligaments, and downwards between the bladder and the vagina, and in the recto-vaginal septum, leaving the uterine stump intact. Even after death the stump may be only slightly affected, and that only on its surface, showing that the attack on the stump is the last effort of the disease at extension. It is hardly necessary to mention that after total extirpation of the uterus the disease recurs in the parametric tissues. Of course it may recur in other organs, such as bones, glands, and viscera. Cancer of the vaginal portion begins in the squamous covering of that organ and is a squamous epithelioma. Its tendency is not to spread deeply but superficially along the portio vaginalis to the vaginal walls. Along these walls it spreads superficially towards the vulva. In its later stages it spreads deeper into the connective tissue, but in its earlier stages, when a radical cure may be effected, its depth is but slight, even less than half an inch. There are some exceptions to this, in which the disease sends processes deeply into the cervix, into its inner layers; these soon ulcerate and split the cervix into two rings; the inner

subsequently sloughs off and a great conical cavity is formed in the situation of the os uteri surrounded by a layer of cervical tissue. After amputation of the cervix the disease recurs in the epithelium at the edge of the cicatrix and is quite superficial, and not in the stump.

The clinical inquiry turns upon the frequency of recurrence, the time which has elapsed before recurrence after total extirpation and supra-vaginal amputation, and the use of the actual cautery, and upon the comparative danger of the two operations. What are the results as to permanent cure after total extirpation? Are they better than those obtained by supra-vaginal amputation of the cervix? Here our present statistics are insufficient to warrant a positive conclusion. This is accounted for (1) by the difficulty of following cases for a sufficiently long period after operation, and (2) by the shortness of the time within which the operation has come to be practised. At one time the statistics of supra-vaginal amputation appeared to be better than those of total extirpation. This was due to the fact that supra-vaginal amputation was adopted in the less and total extirpation in the more advanced cases upon what appears now to be an erroneous view of the progress of cancer, for it is not reasonable to suppose that the minor operation can be more effectual in eradicating the disease than the major. The brilliant results obtained after total extirpation by our *confrères* in Germany show that in their hands the danger of this operation has been reduced to comparative insignificance. From over 70 per cent., the mortality was first reduced to 28, then under 20, then under 10, and now, in some instances, as low as 5 per cent. This is, perhaps, the greatest of the many marvels of modern surgery. At the same time, the question must be asked, Does this mortality exceed the mortality of supra-vaginal amputation of the cervix when performed with the same care? Again statistics fail us. The statistics of partial amputation of six years ago cannot, in justice, be compared with those of total extirpation of to-day. One other question should be asked in this connexion, that is, What are the effects of the different degrees of mutilation caused by the two operations?—a question which has as yet not been fully investigated.

The bearing on practice of the anatomical and clinical considerations which have been mentioned are generally admitted. We may, however, hold certain views with regard to the indications for total extirpation, and be unable to carry them out. How are we to recognise these anatomical conditions during life? The diagnosis of cancer in its early stages, be it in the body or in the cervix, is replete with difficulties. Clinical examination of the most complete character does not speak with certainty, and while removal of a portion for examination with the microscope may remove all doubt, yet in many cases even this fails. What shall we say, then, of the diagnosis of extension of the disease into the cellular tissue? This is still more difficult, often impossible, as is proved by the frequency of recurrence in the cicatrix. When the disease begins in the vaginal portion the superficial direction of its growth favours the diagnosis. Nothing intervenes between the examining finger and the disease, consequently the recognition of the invasion of the vaginal wall is comparatively easy. Far different is it when cancer begins in the cervix or in the body. The nearer to the external orifice is the seat of the growth the less difficult will be the discovery of extension into the cellular tissue, the further from that point the more difficult. Indeed, only when the circum-cervical or parametric tissue is coarsely indurated is the discovery likely to be made. Immobility of the uterus, marked induration of the circum-cervical tissue, the broad ligaments or the sacro-uterine ligaments, are coarse signs easily recognised which contraindicate the operation; but mobility of the organ does not necessarily indicate surgical interference. It is when the organ is mobile that the difficulty of diagnosis arises, and the difficulty comes from the fact that a thick layer of tissue intervenes between the examining finger and the diseased growth. The higher the disease begins the thicker is this intervening layer and the greater the difficulty of recognising the real condition present. In cases in which the whole thickness of the uterine wall is diseased, the cellular tissue is already invaded, but we labour under the disadvantage of possessing no clinical means of detecting it. The best and only sign of it, perhaps, is a bulging or thickening, together with marked hardness of the uterine wall at th part affected. The surrounding tissues may appear to glide over it as in health, and during the operation no indication is met with of disease of the cellular tissue. There is no difficulty in separating the diseased neck from the parametrium, and yet in these cases the parametrium is cancerous, and hence the frequent recurrences. Is it possible to recognise a thin layer of healthy uterine tissue over a diseased part when the disease is situated high up in the cervix? I believe this is sometimes possible, and it is in cases where this is found that a radical cure may be expected. In cancer of the body I believe it to be impossible to recognise such early invasions of the parametrium—at least I have not met with a case in which I have been able to do so.

Our aim should be to recognise this transition stage, to distinguish the cases in which cancer is limited to the uterine tissues from those in which it has passed just beyond them, where there is no appreciable induration of the parametric tissues, and in which nevertheless recurrence after operation is certain. Both vaginal and rectal examinations, with the aid of anæsthesia, should be resorted to with a view of deciding this point, and also of discovering glandular enlargements in the pelvis. Glandular enlargements are sometimes situated at too great a distance from the uterus to be discovered, while the intervening tissue is healthy, and months after the operation become manifest by their growth, when the cicatrix, together with the remains of the broad ligaments, remain free from disease. When it is found that the whole thickness of the uterine wall or of any part of it in the cervix or in the sides of the body where the broad ligaments are attached is involved, should total extirpation be resorted to? or does the operation undertaken under such conditions offer any hope of radical cure?

In opening this discussion I have not attempted to enter into details, but confined myself to suggesting the general principles which should guide us in the formation of correct views upon the subject, and these suggestions have been largely thrown into the form of questions to which, as yet, no complete and satisfactory answers have been made.

THE MALARIAL FEVER OF MAURITIUS;

ITS MICROBIC ORIGIN AND ITS COMPLICATIONS.

BY D. E. ANDERSON, M.D. PARIS, B.A., B.SC. LOND.

DURING a visit which I paid last summer to the Island of Mauritius I was enabled, through the kindness of the medical officers in charge of the hospitals of Port Louis, to obtain much interesting information concerning the peculiar type of malarial fever which for the last twenty years has been doing so much havoc in that beautiful island. Until the year 1866, Mauritius was considered to be one of the healthiest resorts in the Southern hemisphere. It had a flourishing commerce, bringing in as great a revenue as that enjoyed by England in the reign of Elizabeth. It had a general population of 120,000 souls, and an Indian population of 200,000 immigrants. To-day, however, its commerce is less flourishing, and the ravages of fever have reduced the general population down to less than 100,000; and although the Indian population has increased to over 218,000, this is simply due to the more extensive scale on which immigration from India has been conducted during the last few years.

The origin of malarial fever in Mauritius is even now a question on which there is much difference of opinion. Some epidemiologists still uphold Colin's telluric effluvial theory, and argue that for ages past the malaria has lain dormant in the soil; others, with greater show of reason, maintain that until the arrival of the emigrant ship the *Spunky* from India, with malarial fever on board, in 1865, this fever was not known in Mauritius, and that the germ thus introduced found the island at that time in a condition most favourable for its propagation, for the soil had been recently turned up for the railway and gas works, and two serious inundations in 1862 and 1865, followed by prolonged droughts, had not only filled the cellars and gardens in the lower parts of Port Louis with mud, but had also created all along the course of the rivers small stagnant pools, a condition of things not improved by the cutting down of the forest trees on the watershed of the island, which was being converted into sugar-cane fields.

Dr. Meldrum, F.R.S. (of the Mauritius Observatory), asserts in an article written a few years ago, "that the fever made its first appearance in 1865 on a sugar estate at Petite Rivière, on the west coast, whither the Indians, disembarked from the fatal ship the *Spunky*, had been sent, and on which estate a large quantity of putrid black mud, dug out of a drained salt- and fresh-water marsh (*barachois*), had been scattered as manure. Thence the fever spread, north and south, along the coast, round to the other side of the island, and ascended the watercourses until it gained the higher levels." The villages along the mouths of rivers and those situated near the glens suffered most, whilst Port Louis, the capital, became a hotbed of fever, lying as it does in the basin of a valley, encircled along two-thirds of its circumference by a high range of mountains, which obstruct the healthy breezes from the country. Although it faces the open sea on the west, yet on each side of the harbour, at the extremities of the mountain range, extend two or three square miles of low-lying land, with the mouth of the Grand River and the Cassis salt pans to the south and to the north, the Latanier River emptying its muddy water into a shallow part of the harbour called the "Mer Rouge." Moreover, running through the town from the mountain to the harbour are four or five muddy streams, into which the surface and subsoil waters drain. The mouths of these streams for a hundred yards or more are below high-water level, so that at high tide they become large cloaca, the stench from which in summer is most offensive. The suburbs of Cassis and Rochebois, situated in the neighbourhood of the mouth of the Grand River and the Mer Rouge respectively, paid heavy tributes to the fever, so did those of Camp Malabar and Champ de Mars, both built upon, or in the vicinity of, ancient quarries and sand-pits filled in with the rubbish of the town. Indeed, every quarter of Port Louis contributed more or less heavily towards the daily mortality. Most of the villages in the country to which the fever-stricken people fled gradually became invaded by the disease with the exception of those situated at a high altitude. During the epidemic of 1867–1868, one-third of the population of Mauritius is computed to have died, and now, in spite of large sums of money spent by the Government in ameliorating the condition of Port Louis and in carrying out other sanitary improvements, the malarial fever has become endemic in Mauritius.

I had the opportunity of examining the blood of some of the patients at the hospitals in Port Louis, and in eleven out of fifteen cases I discovered Laveran's parasite, which the eminent professor of the Val-de-Grâce maintains is the cause of malarial fever. He describes the microbe[1] as assuming three different forms at different periods respectively of its existence. At first, whilst still a spore, it appears like a small pellucid pearl agglutinated to a red corpuscle, on which it feeds; then it becomes larger, and puts out club-like processes, which eventually detach themselves, and float about in the blood, whilst the microbe itself swells and becomes as large as a white corpuscle, and is filled with the detritus of the red corpuscle. In this third stage it might be mistaken for a white corpuscle were it not distinguishable from the latter by its different mode of action towards acetic acid, glycerine, or carmine. I did not succeed in catching sight of the microbe in the second period of its existence, but, together with several other medical men, I saw it in its first and third stages. But Dr. Davidson of Mauritius, who has already written on malarial fever, tells me he once saw the microbe with its radiating processes. Laveran used an objective of 1000 diameters; mine magnified only 700 times. With these data before us, and admitting the fact that most observers now agree that Colin's theory is exploded, and that the bacteriologist's view is the correct one—that all fevers are due to germs,—one can easily understand the progress and persistence of malarial fever in Mauritius. There is no doubt that the germ or microbe was introduced in the island in 1865 (if it ever was imported before it did not find a suitable nidus and died away), and it thrived luxuriantly in the brackish mud on that sugar estate at Petite Rivière, whence, by contiguity or by transmission, it spread and formed fresh habitats all along the coast, at the marshy mouths of the rivers, and wherever salt and fresh water mingled freely and remained stagnant. From the mouths of the rivers it ascended or was blown up the glens and river courses, sowing its spores wherever stagnant pools or marshes existed on each side of the river beds. In the town of Port Louis it found, as we have seen, a too-well-prepared soil wherein to form a permanent colony. Quinine is said to kill this microbe, and in the blood of those patients whom I examined, and to whom a large dose of this alkaloid had been previously given, it was not found. In some cases, however, quinine and all other antipyretics have no effect. All the medical men in Mauritius have had cases in their practice in whom the temperature, although intermitting in the morning, remained high in the evening, with generally a fatal issue in spite of large doses of quinine. This fact has led many observers to believe that there are several kinds of malarial fever, or, in other words, that there are several species of the malarial germ, producing one or two effects in common, but differing from one another in other respects. They are supported in that belief by the frequency with which malarial fever, not only in Mauritius, but in other countries where it is endemic, merges into, or simulates, typhoid fever, with the characteristic course of temperature, roseolæ, abdominal symptoms, and lesions of the latter disease. True, in some of these cases the roseola, though carefully watched for, never appeared, and only the temperature and abdominal symptoms indicated the typhoidal assumption, whilst in others the temperature chart was complicated and the roseola and pea-soup stools supervened only at the end, with, and sometimes without, the corroborative Peyer's lesions. Again, they point in support of their view to the fatal occurrence of lockjaw in some malarial patients, into whom a neutral solution of quinine had been injected, whilst others treated similarly did not show the slightest symptom of trismus. I am not aware that in other countries malarial patients have succumbed to lockjaw after having been treated hypodermically with quinine, though such an accident may easily happen if the needle be not antiseptically clean and the solution perfectly pure.

It is true that not only in Mauritius, but in Algiers, Guiana, the West Indies, and other countries, malarial fever often takes on a continuous form with persistent high temperature, and that in some cases it develops without any traceable cause into genuine typhoid fever; yet, without admitting the multiplicity of species of the malarial microbe, may not the continuous high temperature be explained by the complications which arise in the course of the malarial attack, and the supervention of typhoid by the absorption of typhoid germs, which surely must exist in the above-named countries and islands where the sanitary conditions are still far from being perfect? I am therefore inclined to believe that all the varieties of malarial fever are primarily due to one cause—viz., the malarial microbe—which, when it acts upon persons previously in good health, produces in them simply the intermittent or the more serious remittent fever, though complications may arise, or other diseases may supervene, which materially alter the symptoms and prognosis of the original attack.

Paris.

[1] LAVERAN: Nature parasitaire des Accidents de l'Impaludisme. (Baillière et Fils, 1881.)

THE CONDITIONS WHICH GIVE RISE TO THE SO-CALLED "BALLOONING" OF THE RECTUM.

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IN THE LANCET of Jan. 5th, 1889, Mr. Bryant brought before the notice of the profession a hitherto undescribed symptom in connexion with stricture of the rectum—namely, an extreme condition of dilatation of its walls so that the examining finger, instead of being everywhere in contact with the folds of mucous membrane, enters a large cavity the walls of which have to be sought for. To this condition he has applied the very apt name of "ballooning," and it is the value of this particular symptom of "ballooning" in the diagnosis of stricture of the rectum that I propose to discuss. It will on all hands be admitted that the diagnosis of stricture either of the sigmoid flexure or of the upper part of the rectum, when the growth is beyond reach of the finger, is often very difficult. If, therefore, it can be shown that "ballooning" occurs only in connexion with such cases, we may safely say that we have in it an important guide to treatment. I have notes of fifteen cases in which "ballooning" of the rectum, in every way corresponding to Mr. Bryant's description, has been present. The majority of these cases have come under my own observa-

tion; for the notes of the one I did not have an opportunity of examining I am indebted to my friend Dr. Ernest Farr of Andover. They represent the result of digital rectal examination of more than 200 patients, the majority of whom came under my notice when surgical registrar at Guy's Hospital. They were so examined because they either presented symptoms of rectal trouble, or because they were suffering from genito-urinary diseases in which a rectal examination was required. An analysis of these cases shows that there are three different conditions with which this symptom is associated.

1. *Stricture of the gut.*—This may be either of the sigmoid flexure of the colon, or of the upper part of the rectum, four inches or more from the anus. Of my cases three certainly, and five probably, belong to this class. In the first case the stricture was malignant, and situated four inches and a half from the anus. In the second there was carcinoma of the sigmoid flexure; while in the third the seat of the stricture was the sigmoid flexure, but its exact nature was not ascertained. The two doubtful cases are those of patients still alive, in whom palliative measures are at present sufficient to produce fairly good results. Both are probably cases of malignant stricture of the sigmoid flexure.

2. *Chronic constipation and fæcal obstruction.* — The largest number of the cases fall into this group. Thus there are two cases of fæcal obstruction and five of simple chronic constipation not amounting to obstruction. All occurred in old people, the youngest being forty-five and the average age sixty. Three cases were in men and four in women. I find that Dr. Matthews Duncan[1] records a case of what he characterises as a semi-paralysed "pouched" rectum occurring in a woman, and leading to retention of fæces either as large masses or as small nodules, which gave rise to much rectal irritation. There was no actual "pouching" in any of my cases, although in one or two the folds of Houston stood out like small shelves from the dilated rectal walls, and upon them were lodged small fæcal masses, so that a cursory examination might give the impression that there were actual "pouches" in the wall of the gut. The greatest dilatation, as might be expected, takes place backwards, so that the rectal wall comes to be closely applied to the hollow of the sacrum.

3. *Spinal lesions.*—The occurrence of rectal dilatation has been described as occurring after fracture of the spine,[2] and I need only add to this that in one case it was present in a boy aged ten years, who was the subject of extreme angular curvature from dorso-lumbar spinal caries. One can hardly include these cases under the term "ballooning," as they are due to direct interference with the nerve supply of the bowel, and in them the dilatation is not permanent. In the two cases of fractured dorso-lumbar spine examined, the symptom appeared after twenty-four hours, varied in degree from day to day, and had almost entirely disappeared by the tenth day. It was more permanent in the case of spinal caries, but even there it had almost disappeared at the end of two months, and its decrease was coincident with a decrease in the severity of the other nerve symptoms present.

The factor necessary to produce this "ballooning" is, as Mr. Bryant has suggested, probably a semi-paralysed condition of the musculature of the rectum. The gradual loss of tone of the muscular fibre leads to a gradual failure of efficient contraction, and no doubt the distension of the rectum by scybala, flatus, or frequent copious enemata greatly tends to the production of the exaggerated form in which it is met with in these cases. After some time no amount of stimulation will cause the rectal walls to contract. Post-mortem examination of two cases has shown some thinning of the coats of the gut. In several of its features it bears a close analogy to the atonic condition of the bladder met with in old people.

In conclusion, I would say that, although ballooning of the rectum is very suggestive of the presence of an organic stricture, yet it cannot be relied upon as any material help to the diagnosis. I believe, from Mr. Bryant's observations, that it is rarely absent in cases of stricture in the particular region of the bowel I have indicated. It does not appear to be present when the stricture is above the lower end of the descending colon. Whether it is more persistent in cases where stricture is present than in chronic constipation or fæcal obstruction I have no data for determining.

Weymouth-street, W.

[1] Medical Times and Gazette, vol. ii. 1879, p. 521.
[2] Gowers: Disease of Nervous System.

A MEANS OF FACILITATING THE COMPREHENSION OF SOME OF THE PHENOMENA OF ASTIGMATISM.

BY JAMES R. TUNMER, M.R.C.S., &c.

THE comprehension of some of the phenomena presented in that condition of the eye known as astigmatism is such a source of difficulty to some of the junior ophthalmic students, in spite of the best efforts of their teachers to assist them, as, I think, to be a sufficient excuse for anyone attempting to simplify the subject, and that any slight success would amply justify the attempt. Before, however, trying to do this I would, in the first place, call attention to what appears to be somewhat of an inaccuracy in the explanation given in some of the text-books on the subject, by which the student is rather confused than assisted. Thus in Higgens' "Hints on Ophthalmic Surgery," he says: "To see a horizontal line distinctly, it is necessary that rays of light proceeding from it in a vertical direction, and therefore passing through the vertical meridian of the cornea, be brought to a focus in the retina;" and Swanzy, in his "Diseases of the Eye," says: "The rays of light emitted from the point and passing through the horizontal meridian will not be brought to a focus on the retina, while the vertical rays will unite on the retina."

Now, to speak of *the vertical rays* proceeding from a point, or the rays proceeding from a point *in a vertical direction*, as passing through the observer's cornea and being brought to a focus on his retina, appears to me to be inaccurate and misleading, and to partly explain the difficulty which the student meets with in understanding what is meant, as the vertical rays from a point do not pass through the observer's cornea, what is meant being that those rays which, proceeding from a point and which pass through the vertical meridian of the observer's cornea, are brought to a focus on his retina. If this be correct, it would therefore be more accurate, as well as more easy of comprehension, if, when speaking of an astigmatic eye, emmetropic in the vertical and ametropic in the horizontal meridians, to say that the rays of light proceeding from the point and passing through the vertical (emmetropic) meridian of the cornea are brought to a focus on the retina, while those proceeding from the same point and passing through the horizontal (ametropic) meridian are not brought to a focus on the retina, and consequently overlap and produce a blurring of the retinal image of the point on each side of it. Now, if this is the effect produced on the retina by rays proceeding from a point, let us see what effect is produced by rays proceeding from a line, bearing in mind that a line is made up of a number of points, and for this purpose let us take a Snellen's sunrise, and we shall see that an eye with simple astigmatism will see one line quite clearly, while the line at a right angle to this will be blurred and indistinct; and let us suppose that the eye looking at the sunrise is emmetropic in the vertical and ametropic in the horizontal meridians, and that consequently the line seen distinctly is the horizontal one, while the vertical line is blurred and indistinct.

To understand this it is only necessary to arrange a number of points in vertical and horizontal lines (as shown in Higgens', Swanzy's, and other text-books) thus

to see at once that the rays passing through the vertical or emmetropic meridian are brought to a focus on the retina and cause no blurring, while the rays passing through the

horizontal or ametropic meridian are not brought to a focus but overlap, and that consequently when the line looked at is horizontal, the overlapping being in the same direction as the line does not cause any blurring except at its two extremities. In such a case had the line looked at been vertical, the effect produced would, of course, have been different, and the line blurred and indistinct from the rays overlapping on each side of it.

An astigmagraph, illustrative and explanatory of the above, was exhibited at the Birmingham meeting of the British Medical Association by Messrs. Curry and Paxton, of Great Portland street, W., and can be obtained from them.[1]

Harrogate.

VOYAGING FOR HEALTH.

ANOTHER CONTRIBUTION TO THE THERAPEUTICS OF THE SEA.

BY ARTHUR J. MOSS, M.B., M.R.C.S., &c.

HAVING read with very great pleasure the article by Mr. H. M. Doyle in THE LANCET of Aug. 2nd, and being thoroughly convinced of the importance of the subject, I venture to offer the result of my experience, which is, on the whole, less fortunate than that of Mr. Doyle.

During a period of eighteen months I travelled altogether over 50,000 miles at sea in almost every class of vessel, in passenger sailing ship, in mail steamers, and in what are called "ocean tramps," and as a result of my own experience would utter a word of caution against the passenger sailing ship for the invalid. If all of them came up to Mr. Doyle's description of the *Sobraon* and the route taken by her to the antipodes, my objections would mostly be without point, but unfortunately they seem a rare exception to the usual rule. In the first place, most sailing ships bound for the antipodes endeavour to make as fast a passage as possible, and to do so go much further south than apparently did the *Sobraon*, and return not by the Cape of Good Hope, but round Cape Horn. As a result of this, strong westerly gales, bitterly cold weather, snow, ice, and rain are the usual climatic conditions to which the invalid is subjected. For instance, I find from my log that on the seventy-fourth day of our outward voyage we were in latitude 49° 39' S., and in longitude 129° 28' E., and the weather was horribly cold, with rain and snow at intervals, accompanied by a heavy gale from the north-west. For six weeks the same sort of weather prevailed, and with scarcely any intermissions. In latitude 42° 56' S. we met with ice, and for a week we saw numerous large icebergs. Our whole voyage from London to Port Lyttleton, New Zealand, lasted altogether ninety-six days, and out of that time we had eight weeks of disagreeably cold weather. We left London on Nov. 24th, and had to lie at the Nore for five days because a south-west gale was blowing in the Channel. During those five days we had ample time to find out what sort of comfort we had to expect during cold weather. The ship had no stove in the saloon, and it seems to be the universal rule that none should be provided in sailing ships for New Zealand, because, as the owners tell you, it is a passage through *warm* weather. The consequence was that the skylights, ports, and every possible means of ventilation were kept carefully closed, the paraffin lamps were kept burning until some sort of warmth was obtained, while the passengers moped about in steaming overcoats in an atmosphere not far removed from that of a coal-mine after an explosion. The same sort of thing prevailed, though not quite so bad, while we were in the far southern latitudes. Another serious drawback from the comfort of most sailing ships is, that the quantity of fresh water available even for saloon passengers is decidedly limited. Indeed, it is sometimes very amusing to see the passengers filling their own water bottles from the carafes in the saloon. Surely this is not the sort of thing a medical man advises his phthisical patient to endure with any hope of cure. A very different state of affairs from Mr. Doyle's account of "only ten days in eight months that the passengers were not able to enjoy themselves on deck." The moral to be deduced from this for a phthisical patient is, Do not go in a sailing ship; or if you go, you must choose your ship carefully and see that there is a stove in the saloon. I may remark that our ship was one of the best of one of the big companies carrying passengers to New Zealand.

The ship in which I came home was a steamer of nearly 5000 tons, with a splendid saloon, well warmed by steam, and thoroughly well ventilated. The main saloon and the best berths were all forward of the engine-room, so that there was no "smell of oil, and the rattle of the engines and the maddening revolution of the screw" were scarcely perceptible. In fact, the difference between the misery of the sailing ship and the pleasant atmosphere of the steamer, even when rounding the Horn, was a change not readily to be forgotten. For a consumptive I should decidedly advise the voyage in a modern steamer, with the saloon forward of the engines.

I entirely agree with Mr. Doyle in his views as to the sort of consumptives who are likely to derive benefit from the voyage, and that none should be sent who had much nocturnal rise of temperature and sweating. Cases of slight tubercular consolidation and cases of pneumonic consolidation, not properly resolved, do well. The cases which are most benefited by a voyage in a sailing ship are decidedly those due to overwork, accompanied by physical weakness, anæmia, and dyspepsia. Sea-sickness in most cases seems to be almost a specific for the latter ailment. A dipsomaniac should never be sent to sea in a passenger ship, for the facilities of obtaining alcohol and the temptations of other passengers usually prove too strong for the patient. For such a case a voyage in a tramp steamer or ordinary cargo boat, where no liquor usually appears at table, is best. But the objection is that the food on board these boats, though usually good, is very plain.

With regard to the general uselessness of drugs in sea-sickness, I entirely agree with Mr. Doyle. I remember one case of an old lady who was badly sea-sick for seven weeks and had become fearfully emaciated; milk diet and somewhat free doses of hyoscyamus seemed to have something to do with her recovery. Usually sea-sickness really begins when the patient attempts to get up and dress on the first morning at sea, and my advice, often successful, then is to stop quietly in bed until the patient has had some breakfast, then to have a little champagne, dress and go on deck, remaining there as long as possible. This plan I have known to be successful in preventing sea-sickness or lessening its terrors to several people who have been habitually sick every voyage.

On the question of outfit there is not very much to be said, but I should strongly advise everyone to take plenty of woollen clothing, but, above all, not to forget to include a good mackintosh, sea boots, and a sou'-wester hat. Thus prepared a passenger is often enabled to go on deck and stay there in comfort, when, if not so provided, he would either have to remain below or face an inevitable drenching on deck. Plans of the cabins of the various ships can usually be obtained from the owners, and should be attentively studied by every intending passenger. The principal points for guidance in the selection of a berth are—(1) size of state-room and number of berths in it; (2) position not near w.c. or steward's pantry; (3) as far forward as possible. In a sailing ship a berth on the port side is generally preferred, but there is practically no real difference. These are the principal disadvantages, which have always to be reckoned with in every sea voyage, and if the attention of medical men is once drawn to them in a practical way, much disappointment and distress will be prevented, and greater benefit will be the result.

Penarth.

[1] By the courtesy of the author a model of the astigmagraph has been submitted to us.—ED. L.

MIDLAND COUNTIES IDIOT ASYLUM.—The twenty-third annual general meeting took place on the 13th inst., at Malvern, Earl Beauchamp presiding. The report stated that the position of the asylum was satisfactory. Some of the patients had become exceedingly efficient and useful in domestic work. The total receipts had been £1953, and the expenditure £1524. During the year Mr. R. H. Foster of Knowle had succeeded Mr. G. W. Tait as medical attendant; and the committee recorded their high appreciation of the valuable services rendered to the institution for fourteen years by Mr. Tait. Earl Beauchamp, in moving the adoption of the report and accounts, pointed out that so far from lunacy having increased, examination of statistics showed it to be now at its lowest ebb, and the improvement had been brought about by the great advance made in the medical treatment of the insane.

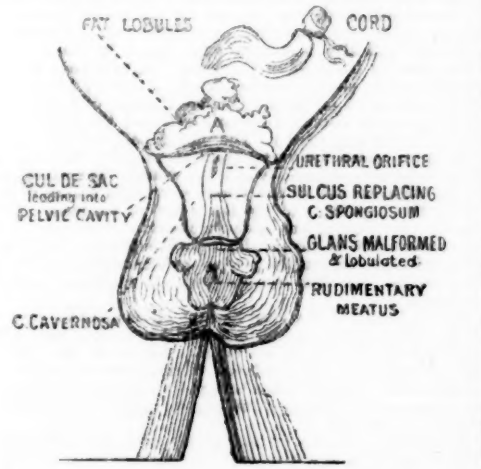
Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

AN UNUSUAL CASE OF EPI-SPADIAS—PSEUDO-HERMAPHRODISM.

BY J. A. MANTON, M.R.C.S., L.R.C.P. LOND., &c.

I APPEND the notes of an unusual case which has recently come under my notice. The sketch underneath represents the genitalia of a child a few hours old, which was brought to me by Mrs. G——, midwife, with a request that I should pronounce an opinion as to whether the child should be garbed as a boy or a girl. Examination revealed the curious condition of affairs represented in the engraving, which is photographed from a sketch made at the time. The child was obviously a male, the scrotum and the descended testes being well developed. The under aspect of the penis, which together with the upper was denuded of integument, was bound down in the direction of the median raphé to the scrotum. On manipulation no semblance of a corpus spongiosum could be felt or seen; the corpora cavernosa were, however, well developed. The upper surface of the penis was covered by a shining epithelium, apparently of the nature of mucous membrane; in the median line was a shallow sulcus lined by the same shining material, which being traced backwards led into a cul-de-sac or pseudo-vagina about two inches, or possibly more, in depth. The finger could trace the outlines of the pelvis, and feel



the pulsation of the iliac and the as yet unobliterated portions of the hypogastric arteries. The orifice of the urethra, through which a probe was passed, was just within the commencement of the cul-de-sac above alluded to. On the upper portion of the malformed and lobulated glans was a rudimentary and imperforate urethra. Apparently sprouting from the upper anterior margin of the cul-de-sac was a mass of fat lobules; when the child was quiet they could be pushed within the pseudo-vagina, only to be protruded again when the child cried. Another curious fact about this most singular case was that the cord perforated the abdominal wall at a distance of not more than one inch from the top of the pubes. Cases of epispadias and hypospadias are not very rare, and, as is well known, are due either to arrest or excess of development in the mesial line. Failure of union in the urethral cleft is not uncommon, as well as cases where the urethra after having travelled a certain distance along the penis makes its exit at the upper aspect of the organ (*vide* Maclise's "Surgical Anatomy"). In this case the penile portion of the urethra seemed to be entirely uppermost. Another puzzling element is imparted to the case by the masses of lobulated fat represented at A. What is their history, and from which of the developmental elements are they derived? It is surely very unusual to find lobulated fat *within* the lumen of a tube or cavity in such a position.

Sheffield.

CASE OF PUERPERAL ECLAMPSIA SIX DAYS AFTER DELIVERY; DEATH.

BY G. OSCAR JACOBSEN, F.R.C.P. LOND., M.R.C.S. ENG.

I ATTENDED Mrs. W. B——, a healthy primipara of twenty-six, on Dec. 7th, 1889. Labour was natural, though somewhat protracted, and as the patient became rather exhausted, delivery was completed by the forceps, when the head was well down on the perineum. The child was dead. The patient made an excellent recovery, and I saw her on the afternoon of Dec. 12th, when she appeared so well that she asked if she might get up on the following day, which I prohibited. A little after eleven o'clock the same evening I was called up by her husband, who asked me to come at once to see his wife, who had suddenly fainted, and whom he thought was dead. On the way to the house I asked him for particulars, and he told me that at a quarter to eleven he went in to say "Good-night," when she appeared perfectly well, though she had complained to the nurse just previously of feeling a little faint whilst being given a hot vaginal douche. He left her and was just getting into bed in the next room when he heard her cry out, and on running in he found her lying unconscious on the bed. On arriving at the house I found Mrs. W. B—— in a state of dyspnœa, with livid, congested face, frothing at the mouth and irregular running pulse. On listening over the heart, a tumultuous, churning bruit was heard. I at once ordered a mustard plaster to the nape of the neck and another to the precordium, and had her limbs chafed, whilst I tried to get her to swallow three drachms of equal parts of aromatic spirit of ammonia, compound spirit of sulphuric ether, and compound tincture of lavender. This seemed to revive her slightly, but she then lapsed into a state of clonic convulsions most marked on one side. I sent for some bromide of potassium and chloral and tried to get her to swallow some, but not succeeding I gave her three enemas, at about half-hour intervals, of one drachm of the former and two scruples of the latter, but with no abatement of the convulsions. I then tried, at intervals, some five or six capsules of nitrite of amyl, and on the convulsions getting, if anything, stronger, I gave the patient one or two hypodermic injections of morphia, of a quarter of a grain, and later of a third of a grain. (I gave her no purgative, as the bowels were freely open from her having taken half-drachm doses of sulphate of magnesia three times daily, to prevent secretion of milk.) Her condition remained much the same till between 4 and 5 A.M., when the convulsions became less strong, only to be replaced by coma. Everything was tried to rouse her—fresh mustard plasters, mustard to the calves, flagellation with cold wet towels to the face, injections per rectum of hot, strong coffee; and, as the patient was so exhausted, I also had new milk, with yelk of eggs, injected as well. The coma, however, became deeper, and the pulse weaker, and she gradually sank and died at 9 A.M. on the 13th, ten hours after the first onset, without ever having regained consciousness.

Remarks.—The case is somewhat remarkable, I think, in that there were no premonitory symptoms, nor could I discover any cause for the attack. The only likely thing that I could possibly attribute as an exciting cause was, as I afterwards was told, her having received a large number of friends without my knowledge and against my consent. There had been no bad symptoms during the labour itself; she had complained of no headache, nor was there any œdema of the face or body. I cannot say whether the urine contained any albumen, as I had had no reason, as I thought, to examine it. Furthermore, there was no history of the patient ever having had any kind of fit. I was also unable to obtain her friends' consent to a post-mortem examination.

Huntingdon.

A CASE OF SUDDEN DEATH.

BY H. B. CAVELL, M.R.C.S., L.S.A.

ON Aug. 10th I had an opportunity of making a post-mortem examination on a case of what appears to have been insolatio, which I think may be interesting to others.

Mr. E. D. FitzGerald, who had seen the man when he was found dead, could detect no injury or mark of violence. His face was intensely livid, but the conjunctivæ were not ecchymosed. About thirty-six hours after death Mr. FitzGerald and I performed the autopsy. On removing the brain there was a slight excess of fluid in the ventricles, and all the veins were full of liquid blood. Although I made a most careful search for extravasation, embolism, or thrombosis, I failed to detect any lesion in the organ at all. The right heart was full of liquid blood, the left contracted and empty; both were perfectly healthy. The lungs were uniformly engorged with dark fluid blood; the kidneys and other abdominal organs were healthy, though somewhat congested. The man was a soldier, about thirty-three years of age, and fairly sober in his habits. He had had no hard work to do on the day of his death since the morning, and was seen at three in the afternoon apparently in good health and spirits, about two hours after which he was discovered dead. He had seen some foreign service, but we could not learn that he had ever had a heatstroke or any kind of fit. The day of his death (Aug. 8th) was somewhat hot and sunny.

Fleet, Hants.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

OSTEOTOMY OF FEMUR FOR ANKYLOSIS OF HIP; SECONDARY HÆMORRHAGE; LIGATURE OF THE COMMON FEMORAL ARTERY; DEATH; NECROPSY.

(Under the care of Mr. BELLAMY.)

THE account of this case is of considerable importance, illustrating as it does one of those accidents which are extremely rare after the operation of osteotomy—secondary hæmorrhage from a neighbouring artery. Hæmorrhage from a main artery has been known to occur after subcutaneous section of the femur in the lower fourth for genu valgum. In this part of its course the artery is not far from the bone, and is somewhat exposed to injury, whether this be caused during the operation or later as the result of ulceration secondary to the pressure of a displaced fragment. If the wound becomes septic, the attempt at repair may fail and the rough irregular margin of bone act like a foreign body, causing ulceration in the parts around. This occurrence is fortunately rare in the lower part of the thigh, but is hardly known in the upper part, if we may take medical records as a means of judging of its infrequency. The surgeon who has had much experience is aware of the occasional failure of operations for the correction of deformity; but the junior members of the profession, who have probably not followed up cases beyond the operation, are apt to overlook the complications which may arise during the after treatment, and assume that when the dressing is applied there is no further cause of anxiety on the part of the operator. We are indebted to Mr. Da Costa, surgical registrar, for notes of this case.

P. B——, a female aged twenty, was admitted into Charing-cross Hospital on Feb. 6th, 1890. She was quite well until ten years old, when she slipped and hurt her hip, which remained painful; she had it painted with iodine, and about a month after the accident, as the limb became worse, went to the London Hospital. She was then limping and had to use a crutch. In that hospital she was treated by extension, a weight being applied to the foot. She stayed there for three months, then went home, where she used to sit up with her legs extended on a special seat until she was permitted to walk about with a crutch. She then went to school for two years, during which time an abscess formed on the outer side of the thigh and another below the groin. Other abscesses have formed during the last eight years in the neighbourhood of the joint. The patient also suffered from abscesses below the right side of the jaw, of which the cicatrices remain. Her father and mother are healthy; she has lost several brothers and sisters, who all died in infancy. She has ten brothers and sisters alive, all healthy, but stated that there is consumption in her mother's family. When admitted she was pale, but fairly well nourished. The right thigh was flexed almost to a right angle, and strongly adducted, the right knee passing across the lower third of the left thigh. Sinuses were present in front and behind the right great trochanter, and also opposite the sacro-iliac synchondrosis. The hip-joint was firmly ankylosed. The length from the anterior superior iliac spine to the internal condyle of the femur on the affected side was 15 in.; on the healthy side 19½ in. Length from the internal condyle to the internal malleolus on the affected side 15 in.; on the healthy side 15½ in.

Feb. 12th.—The great trochanter on the affected side is drawn up well above Nélaton's line, while on the sound side the superior border of this process of bone hardly reaches the line. The patient has had erysipelas (?) on the right foot and calf; at present she suffers but little pain. The temperature is normal. The liver appears decidedly enlarged. Thoracic viscera seem healthy. Spleen cannot be felt. The urine contains lithates and a trace of albumen.

Operation.—The hip and surrounding parts having been rendered aseptic and the patient being under an anæsthetic, Mr. Bellamy on the 13th made a free curved incision, with the convexity backwards, about five inches in length, behind the great trochanter. The incision went down to bone, and was followed by some sharp hæmorrhage, which was controlled by clip forceps. After considerable difficulty had been experienced in the section owing to the hardness of the bone—the new bone tissue was as hard as marble,—the neck of the femur, which was found dislocated on to the dorsum ilii, was divided. No bare bone was found. (Adams's saw and the chisel and mallet were employed.) The upper part of the great trochanter, which was very prominent, was also sawn away, as it projected considerably into the wound. The adhesions about the upper end of the femur were then broken down by forcible movement of the lower end of the bone. The wound was washed out with perchloride of mercury, the two extremities of the incision were brought together with horsehair, and the central portion by means of silver wire. The wound was then dressed with sal alembroth gauze and wool.

14th.—Patient lost a good deal of blood after the operation. Sickness was persistent, and she complained of a good deal of pain during the night. Tongue moist. After the injection of three minims of morphia solution she slept a little. The limb has been put up between sandbags. Temperature 99·2°; pulse 128, regular and small; respiration 28 per minute.

15th.—The hip was dressed to-day with sal alembroth. There was some suppuration. The limb was put up on a long interrupted Liston's splint, with a weight extension. Temperature 102°; tongue furred, but moist; pulse 132; respiration 32.

17th.—Wound dressed this morning. She complains of aching pains; wound discharges pus very freely; there is bagging towards the tuberosity. Temperature 100°; pulse 112, regular in rhythm and force.

20th.—She has a bedsore over the sacrum. Temperature 101°; pulse 120.

21st.—Temperature 100·6°. Large quantity of discharge; the upper lip of the wound is everted.

22nd.—She passed a bad night. Temperature 101·6°; pulse 100, and easily compressible.

28th.—She looks very anæmic. Temperature 100·2°.

March 5th.—She was placed in a double Thomas's splint interrupted on the right side.

10th.—Since Saturday the patient has had diarrhœa, which has been three or four times lienteric. Pulse 124, regular in rhythm and force. Appetite bad. Wound dis-

charges thick pus freely. Patient continues very anæmic, and complains this morning of sore gums. Tongue moist and clean. Sleep disturbed by starting pains.

12th.—Patient experiences much pain in the knee and thigh. Temperature last night 101·2°; this morning 99·6°; pulse 128. Gums and mouth still sore.

13th.—Wound dressed to-day and looks healthy.

21st.—Owing to sores produced by the pressure of Thomas's splint the latter has been removed this morning. The urine is slightly alkaline, specific gravity 1012 It contains a decided cloud of albumen, and some muco-pus.

25th.—The wound is supported with strapping, and plugged with sal alembroth.

30th.—Oozing from the anterior sinus has been noticed since yesterday. It came on at intervals, and stopped with pressure. A more thorough examination was made late this evening, and a large swelling detected on the outer and upper part of the thigh, extending to the crest of the ilium and iliac fossa. It was non-pulsatile, and did not encroach on the femoral vessels. Mr. Bellamy was sent for at 7.30 P.M. On his arrival it was decided to enlarge the sinus towards the crest of the ilium, the house-surgeon compressing the femoral artery. This being done and the clots removed, the sharp fragment of the upper end of the femur was felt, and the outer wall of the profunda femoris artery was found ulcerated since removal of the pressure on the femoral artery caused sharp arterial hæmorrhage. Mr. Da Costa controlling the profunda artery from the wound, Mr. Bellamy proceeded to ligature the common femoral. This done, the hæmorrhage was completely stopped but for two superficial vessels, which were clamped. The anterior wound was closed after having been irrigated with perchloride of mercury solution. Patient was quite blanched, having lost a considerable quantity of blood, and died early the following morning from shock and exhaustion.

At the post-mortem examination there was no union of the fragments; the upper end of the lower one was very sharp, and had caused perforation of the posterior or outer wall of the profunda femoris artery. Two ligatures were found at the same spot on the common femoral artery. There was also a large abscess cavity extending up to the iliac fossa. The right kidney was a bag of pus, the right ureter being dilated and thickened. Pus was present in the bladder. The liver, spleen, and left kidney were enlarged but not albuminoid.

YORK COUNTY HOSPITAL.

SARCOMA OF THE FIBULA; AMPUTATION THROUGH THE KNEE-JOINT; RECURRENT GROWTH IN THE SPINAL CORD; DEATH.

(Under the care of Mr. JALLAND.)

IT is important to record completed cases of primary sarcoma of the bones of the extremities, for we are still without sufficient evidence as to the value of operation in these cases under modern conditions. As Mr. Butlin has pointed out in his work on the Operative Surgery of Malignant Disease, we must not conclude that patients who are lost sight of by the surgeon are not cured, for the tendency of those who have recurrent or secondary growths is to apply again for relief when such is noticed. We can gather little on this subject from hospital statistics, for not unfrequently cases similar to this are entered as cured when the patient leaves apparently well, and readmission later for return of the disease is counted as a separate case. The growth in this patient was a mixed periosteal one of some eight months' duration before removal, and death from secondary growth in the spine took place about four months later. It will be noticed that amputation was performed as soon as possible after admission to the hospital, but the patient had probably consented to go there only when unable to work any longer on account of the pain and large size of the tumour. With the history in this case there was no difficulty in the diagnosis of secondary growth affecting the vertebræ; but in primary tumours in that situation, or where the history is less clear, it may be of advantage to remember the points in sarcoma of the spine which Dr. Eves[1] has insisted on—the absence of fever, and the severe continued pain complained of in turning or sitting up in bed.

[1] Journal of the American Medical Association, 1888.

For these notes we are indebted to Mr. R. J. Hutchinson, house-surgeon.

F. D——, aged twenty-nine, was admitted on Jan. 12th, 1890, with a large tumour on the outer side of the left leg. He first noticed the leg enlarging in May, 1889; this enlargement has gradually increased, and has become painful during the last three weeks; he was at work till three weeks ago. Is married, and has no children; has been a stone-worker all his life.

On examination, there was found a large fusiform swelling at the upper and outer part of the right leg; very hard; some pain over parts of it; no enlarged glands in the popliteal space or groin. The calf measures fifteen inches and a half round its widest part.

Jan. 14th.—Mr. Jalland operated, removing the leg at the knee by a long anterior skin flap and short posterior flap. The growth was found to spring solely from the fibula, probably from the periosteum; it was very hard and fibrous in structure, with much thick juice; the fibula could with difficulty be traced through it. The patient made a good recovery, with very little suppuration; the stump healed well, and he left the hospital on crutches on Feb. 22nd. On examination under the microscope the growth was found to contain much fibrous tissue and spindle and round cells, a mixed form of sarcoma.

Two months after leaving the hospital pain came in the back opposite the lumbar vertebræ, travelling down the back of the left leg to the end of the stump, no pain in the right leg; this pain was of a continuous throbbing character; except for this he was in good general health. It was supposed to be a case of neuralgic stump. About April 18th he began to notice that he could not pass his urine freely, only a little at a time, and that with difficulty, bowels constipated, for which he took pills. He also noticed his right leg getting weaker a few days before admittance. When admitted on May 9th there was intense pain in the lumbar region, no girdle pain, pain also referred down back of left leg, no marked tenderness on pressure; temperature 100° on evening of admission, pulse 150, respiration 32, no heart or lung changes. Stump looks very healthy, no tender spots on it; sciatic nerve not markedly tender, though it pained him when pressure was applied; tongue brown, furred, moist. No paralysis or loss of sensation. Retention of urine complete.

May 10th.—Had two morphia injections (one-fifth of a grain each) in the buttock, which relieved the agonising pain and gave him six hours' sleep. He was delirious occasionally.

11th.—Patient again had a very bad night, with intense pain in the lumbar region, radiating round to the front of the abdomen and down the left leg. Relieved for a short time by morphia; was delirious, getting out of bed repeatedly. Slept after twenty grains of chloral hydrate. Knee-jerk present normally on the right side. Temperature 100°.

12th.—Patient was easier to-day, and appeared better; complained of a feeling of numbness in the right leg; knee-jerk present, and motion not impaired; very restless during the first part of the night, and delirious; got out of bed once. Temperature 100·2°; pulse 110.

13th.—There is anæsthesia over the outer and front part of the right tibia; at the back of the legs the sensation is good; there is impaired sensation over the front of the abdomen below the umbilicus; complete paralysis of both legs; right knee-jerk absent. Temperature 100°.

14th.—Anæsthesia complete in both legs, all over the abdomen to the sixth rib, where there is a zone of hyperæsthesia over about the fourth, fifth, and sixth intercostals; has an intense constricting girdle pain opposite the fifth intercostal; passed an involuntary motion; retention of urine continues. Temperature 101°.

15th.—Anæsthesia very little higher; no girdle pain, but some hyperæsthesia; good night after morphia.

17th.—Patient the same; had a severe attack of diarrhœa.

18th.—Urine drawn off with catheter twice a day; contains a great deal of blood.

21st.—Patient is worse; area of marked hyperæsthesia over second and third ribs; delirious; tongue very dry and foul; more blood in urine, with several large clots; passes a large quantity; abdomen distended, tympanitic. Takes four ounces of brandy in the twenty-four hours. Diarrhœa recommenced. Temperature 98°.

26th.—Patient has gradually become worse, and is much wasted; blood is still present in the urine in considerable

quantity; the paralysis and anæsthesia are unaltered, the arms remaining quite free; bedsores have appeared during the last two days; the heart has failed rapidly, and the patient cannot take food. He died on May 27th. There was no optic neuritis or change in the fundus before death.

Post-mortem examination.—Body much wasted; lungs congested with old pleural adhesions at the right apex; heart normal; liver, spleen, and kidneys normal; bladder dilated, walls thickened with signs of acute cystitis, shreds of thick white membrane hanging to them; no peritonitis. Three deposits of sarcoma resembling the original growth on the fibula situated on the third rib on the left side near the costal cartilage, on fifth costal cartilage on left side, and on seventh rib on left side, the latter appearing to be endosteal, the two former periosteal. That on fifth rib about the size of a walnut, the other two the size of half a Tangerine orange. On examining the spinal canal, in the upper dorsal region there was a deposit of sarcoma extending from the second to the fifth dorsal vertebræ, springing from the periosteum on the inner surface of the laminæ and attached at one spot to the dura mater of the cord; it did not appear to compress the cord much. In the lumbar region there was another deposit, apparently springing from the laminæ, not affecting the membranes of the cord at all, extending from the twelfth dorsal to the second lumbar vertebræ. No growth from the bodies of the vertebræ. A great deal of arachnoid fluid was found within the dura mater of the cord, from about the sixth dorsal vertebra downwards. Membranes much distended. The brain could not be examined. No growths were found anywhere else. On microscopical examination the growth in the canal was found to be a small round-celled sarcoma, with more cells and less stroma than the primary growth in the fibula; the cord did not show any signs of general acute myelitis, except in a small tract in one of the lateral columns of grey matter.

Medical Societies.

CAMBRIDGE MEDICAL SOCIETY.

AT a meeting held on July 4th, Dr. Latham, President, in the chair, the following communications were made.

Preternatural Adhesion of the Placenta following partial Separation with Hæmorrhage.—Dr. ROPER submitted a paper on this subject. He said that on June 30th, 1889, he was sent for by Mrs. R——, who was then in the fourth month of pregnancy. There had been profuse hæmorrhage for several hours, and bleeding was still going on. The os was not dilated. The pulse was small, irregular, and intermittent; there was a mitral regurgitant murmur. The patient was very weak and anæmic. He gave a drachm of liquid extract of ergot, and ordered ten minims of aromatic sulphuric acid every three hours. On the following day the hæmorrhage had quite ceased, and there was no recurrence. After a few days five grains of ammonio-citrate of iron and five minims of tincture of digitalis were ordered, three times a day. The patient became much improved, the pulse regular, and the intermittency disappeared. Early in the morning of Dec. 11th Dr. Roper was sent for, as labour had set in. The liquor amnii had been discharged, the os was dilated to the size of a small orange, dilatable, and an arm presented. Mr. Wherry gave ether, and Dr. Roper delivered by turning. There was no appreciable pulsation in the cord, but, as expression had no effect, Dr. Roper introduced the hand, and found one edge of the placenta firmly adherent over a surface about the size of a crown piece. The patient made a very good recovery.

Nephro-lithotomy.—Mr. LAURENCE HUMPHRY related the case of a man, aged twenty-seven, who was recently under his care in Addenbrooke's Hospital. He was a railway porter, but had been incapacitated from work since last April by paroxysmal pain in the right lumbar region, shooting down the right thigh and calf. There was no vomiting, digestive disturbance, syncope, or increased micturition, nor had blood been noticed in the urine. Latterly the pain was more constant in character, but increased by movement. The knee-jerk was slightly increased in the right leg. On palpation there was tenderness over the right kidney in front and behind, and marked rigidity of the right rectus muscle. No definite tumour could be felt, but there was a sense of fulness in the right loin. In the urine there was a deposit of about a thimbleful of pus daily, and the microscope showed, in addition, a few red blood cells, triple phosphates, and abundant small oxalates of envelope shape.—Mr. WHERRY gave an account of the operation, which was performed on June 13th. He made an incision into the loin in the usual situation, and exposed the kidney. An indefinite, somewhat irregular hardness was felt in the situation of the pelvis. On passing needles in the direction of the hardness, Mr. Wherry was able with difficulty to satisfy himself that it was a calculus. An incision was then made into the pelvis of the kidney, and a calculus, the size and shape of a small filbert, with an irregular protuberance on one end of it and crusted with oxalate of lime, was extracted. The man did not complain of any unusual pain after the operation, and had a good night's rest. The wound was dressed every day; there was a large amount of blood-stained urine in the dressings till the 17th, when it began to diminish. The man was allowed to get up on the 29th; the urine after the operation was quite free from blood, and was comparatively clear, with the exception of a little flocculent mucus. Urine is now clear, but contains oxalates.

Fracture of the Neck of the Thigh-bone.—Mr. DOUTY showed the Upper Ends of Two Femora taken from a patient aged sixty-seven. In the one there was a fracture of the neck, just below the head—entirely separating the head from the neck, and therefore truly intra-capsular. There was no bony union, the surfaces of the fragments were not jagged. There were firm fibrous bands (which had unfortunately been destroyed in maceration) uniting the fragments, and these bands, of which there were three prominent ones, corresponded in position with the retinacula of Weitbrecht, which are strong flattened bands of thickened synovial membrane passing from the femoral attachment of the capsule up to the margin of the head of the bone. Mr. Douty pointed out that in fracture of the neck these retinacula are sufficiently strong to prevent much displacement, and that fibrous union is largely due to thickening of the fibrous tissue of these retinacula and the tissue in their neighbourhood. In the other femur, the interest lay in the fact that the margin of the head and commencement of the neck was in a fragile state of fatty degeneration and senile atrophy—in such a condition that the slightest blow or twist might have caused a fracture. So that, in this patient, on one side there was a complete fracture, and on the other side there was the state of affairs immediately preceding fracture, and requiring only slight violence to complete it.

Fœtus in Utero.—Mr. DOUTY also exhibited the frozen section of a Fœtus in Utero. It was probably the first time such a specimen had been so prepared. Braune had cut frozen sections of a woman in the seventh month of pregnancy, but the section of the fœtus was not at right angles to the plane of the body. Pausch of Leipsic, too, had sectionised a frozen fœtus in utero at about this age, but here again the fœtus was cut obliquely. This fœtus in utero was removed from a woman, at the end of the seventh month of pregnancy, who died of phthisis. It was placed in a large amount of ice and salt, and took five days to freeze. The section was cut with a large backed saw, and the two halves were then placed at once in strong spirit. Mr. Douty drew attention to the extreme state of flexion of the head on the thorax, further flexion at the commencement of the second stage of labour, as ordinarily taught, being quite impossible. The uniformly kyphotic curve of the spine is well seen, and the large size and high position of the bladder, which was full of urine. The fœtus lies in the typical first position, and the cord is round the neck.

Professor HUMPHRY exhibited some specimens of Fracture of the Neck of the Thigh-bone. His remarks were published in THE LANCET of Aug. 2nd.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Pathological Section was held on May 2nd, Dr. E. H. Bennett, President, in the chair.

Diphtheritic Micro-organisms.—Dr. M'WEENEY showed a section through the epiglottis of a child who had died in the Mater Misericordiæ Hospital from Post-scarlatinal Diphtheria. The patient had been admitted in the desqua-

mation stage of scarlatina suffering from a bad throat and albuminuria. After death the mucous membrane of the upper part of the larynx was found coated with a thin layer of greenish-gray exudation. The sections exhibited showed numerous micro-organisms in irregular masses, and also scattered through the almost structureless membranous exudation. Some of these were cocci, others bacilli; the cocci were scattered or in pairs, the bacilli were smaller in size than the Klebs-Löppler diphtheria bacillus, and were certainly not the same species; as, in addition to the difference in size, they also differed in the fact that the bacillus found by Dr. M'Weeney stains readily by Gram's method, whereas the Klebs-Löppler organism is at once decolourised by iodide of potassium. Cornil and Babes also describe organisms found in cases of pseudo-diphtheritic laryngitis after scarlatina, but they seem to have found chiefly cocci. Dr. M'Weeney also showed a cover-glass preparation of a pure culture of the Klebs-Löppler diphtheria bacillus, showing the so-called "involution forms," and referred to the recent researches of Spronck into the subject, which have quite established its pathogenicity. A sterile filtrate of a pure culture will cause paralysis, closely resembling the post-diphtheritic in the human subject, and also albuminuria in rabbits.

Multiple Abscesses of the Liver.—Dr. JOSEPH REDMOND submitted a case of multiple small Abscesses of the Liver. Mrs. E——, a married woman, was admitted into the Mater Misericordiæ Hospital on Feb. 27th, 1890. The patient was anæmic, wasted, and somewhat jaundiced in appearance. She complained of severe pain over the liver, and stated that she suffered from gall-stones. The patient died on March 12th. The post-mortem was made by Dr. M'Weeney. Right and left pleural cavities showed evidence of acute inflammation. The liver was enlarged; numerous small abscesses were detected, more especially in the left lobe. The gall-bladder was full of small angular calculi. Cystic duct thickened but patent. The common bile duct was blocked by a calculus lying immediately behind the duodenal mucous membrane.—Dr. M'WEENEY said that he suggested the somewhat wild hypothesis that the gall-stones might have caused ulceration of the common bile duct, and that micro-organisms might have made their way up, in spite of the supposed antiseptic action of the bile, and spread into the ordinary liver substance; but his belief was that the case was pyæmia.

Round-celled Sarcoma of the Testis.—Dr. M'WEENEY showed a Tumour of the Testis removed at the Mater Misericordiæ Hospital in January last by Mr. Chance. The patient, aged about thirty, had first noticed the swelling about two years previously, and it had increased gradually and painlessly since that time with absence of testicular sensation. The testis was enlarged to the size of a medium-sized orange; its shape was globular; its consistency hard. On section the substance was white, mottled with yellowish patches, which looked to the naked eye like caseated portions, and which on microscopic examination showed fatty degeneration, and were almost structureless. There was no trace of tubercular new growth. The stroma was trabecular in character, the main trabeculæ being comparatively thick, and running a straight course through a considerable part of the sections. From them were given off more delicate bands, which in their turn gave origin to still more delicate ones, the same structure prevailing throughout—viz., round and spindle-shaped nuclei of various sizes, with little or no approach to the formation of fibrous tissue.—Dr. PATTESON said that, judging from the general distribution of the stroma and the character of the cells, this disease was much more distinctly a carcinoma than a sarcoma.

A meeting of the Surgical Section was held on May 9th, Mr. Edward Hamilton in the chair.

The Surgery of the Brain.—Mr. THORNLEY STOKER read a paper on two cases of Brain Disease, on which he had operated during the session. In the first the trephine opening was placed, with the purpose of exposing the second temporal convolution, with its centre one inch and a quarter behind the external meatus, and one inch and a half above this base line. He thought Mr. Barker placed the point to expose the second convolution too low down—viz., one and a quarter above the base line—and he demonstrated, by a number of Professor Cunningham's models and drawings, kindly lent for the occasion, that the point indicated by Mr. Barker could only expose at highest the inferior convolution, and might even endanger the lateral sinus. Mr. Stoker expressed his intention in future of operating one inch and three-quarters above the base line, at which height only there would be reasonable certainty of exposing the second convolution. Nine exploratory punctures were made in different directions, and on the ninth, at a distance of one inch and a half from the surface of the brain, pus was found, to the amount of from two to three drachms, lying above the tentorium, in a direction downwards, inwards, and backwards from the trephine opening, at the junction of the under surfaces of the temporal and occipital lobes. The patient, who had passed through several dangerous and interesting periods since the operation, was, three months after trephining, alive and doing well, and, although she had lost several drachms of brain matter by sloughing and by the removal of a hernia cerebri, she suffered no paralysis or impairment of any kind, the sense of smell being restored and all her symptoms relieved. The second case was one of a spindle-celled sarcoma, of small size, situated in the superior and back part of the right parietal lobe of a man aged forty-two. It had given rise to tonic spasms of the left side, commencing in the leg and gradually invading the trunk, upper extremity, and face. Spasm was followed by paralysis, occurring in the same order from below upwards. The case was operated on, the leg and arm centres being exposed; but the tumour was not discovered, as it lay at the extreme back of the leg centre, and was of the same consistence as the brain substance, so that instruments passed through it without resistance. The removal of pressure afforded by the operation gave temporary relief. The patient, who was nearly comatose and quite hemiplegic, recovered consciousness and partial power in the side, but died three weeks afterwards.

Professor BIRMINGHAM communicated a preliminary report of an investigation which he was carrying on into the surgical anatomy of the parts engaged in the operations of Trephining in Mastoid and Tympanic Disease. In the investigation he noted the anatomy of Mr. Wheeler's operation, which opened the cranial cavity and the mastoid cells at the same time by one trephine hole; the exact relation of the mastoid antrum to the surface; the position of the lateral sinus, how to find and how to avoid it; and whether there was (anatomically) any danger in opening the mastoid cells immediately behind the meatus. Many specimens were shown illustrating the points considered.

The CHAIRMAN observed that before brain surgery could make any steady, useful advance, there must be something like anatomical certainty; and he regarded the contributions of Mr. Thornley Stoker and Dr. Birmingham as valuable anatomical data.—Mr. TOBIN, referring to Dr. Birmingham's observations, recalled Mr. Wheeler's remark on reading his communication to the Section as being to the effect that the opening which he made was one from which the tympanum might be reached, and not one for the purpose of exposing the tympanum.—Mr. THORNLEY STOKER, in reply, said there could be no doubt that an examination of Professor Cunningham's diagrams and casts would show that—instead of going an inch and a quarter above the horizontal line, as Barker recommended, or an inch and a half, as he himself had gone in one of the cases under consideration—the operator might go an inch and three-quarters.

Mr. THOS. MYLES read a paper on Cholecystotomy.

A meeting of the Medical Section was held on May 16th, Dr. J. W. Moore in the chair.

Acute Confusional Insanity.—Dr. CONOLLY NORMAN read a paper on this subject. He pointed out that this form of psychoneurosis occupied an intermediate place between acute mania and the acute dementia of the older classificatory schemes, and contained a very large number of cases. It is characterised by engagement of consciousness in the form of dream-like confusion, together with hallucinatory disturbance. It is interesting to others than specialists, because it is the form of mental disturbance which is most often associated with diseases not primarily affecting the nervous system. Puerperal, post febrile, rheumatic, phthisical, and other varieties of insanity depending on general diseases, commonly take this form. Dr. Norman dwelt upon its frequency in alcoholic cases.—Dr. MOLONEY had himself observed a considerable number of cases in which, at the climacteric time of life, there was confusion as to dates and places, and also, most commonly in cases of

the melancholia type, delusion of persecution by unseen agents.

Medicated Soaps.—Dr. WALTER G. SMITH read a communication upon Medicated Soaps. He drew attention to the differences in preparation and properties of soda and potash soaps, and pointed out the injurious effects upon the skin of an excess of alkali, which removes not only the greasy dirt, but also robs the skin of its natural fat. This is derived from two sources—(*a*) the glands, sebaceous and coil glands; (*b*) the eleidin, of the epidermis. Over-fatty (superfatty) soaps—i.e., containing some unsaponified fat—represented a real advance in the preparation of good soaps for medicinal use. The composition of "grund-seife" (basis-seife) is: Beef suet, 59·3 per cent.; olive oil, 7·4 per cent.; soda ley, 38° Beaumé, 22·2 per cent.; potash ley, 11·1 per cent. This can be medicated by a variety of drugs—e.g., resorcin, ichthyol, sulphur, mercurials, &c. The detergent action of soap was explained, and the modes of using medicinal soaps commented upon.—Dr. M'VEAGH said that to dermatologists medicated soaps had many recommendations for the treatment of parasitic diseases, and he expressed great faith in corrosive sublimate soap for eczema in children, rubbing it in and then putting on a thin gauze.—Dr. WILLIAM STOKER, having regard to the limitation of the medicated soap chiefly to the soap composed of the fatty acids, in which the alkali had replaced the glycerine, inquired as to lithium soap; secondly, in view of the explanation of the action of soap on the hands in the ordinary method of use, whether it was equally true of the superfatty soaps that there was free alkali in free dilution; and thirdly, whether it was competent in the glycerine soap to retain much of the glycerine as used in commerce, or was it only "glycerine" so called, on the *lucus a non lucendo* principle?—The CHAIRMAN said he had seen ointment containing ten grains of salicylate to the ounce used even on children without deleterious effect. As regards the question whether glycerine was really present in so-called "glycerine soap," the sweet taste of that soap was conclusive evidence of its presence.—Dr. WALTER G. SMITH, in reply, said that the transparent glycerine soap contained a large amount of glycerine. There was no doubt that the use of medicated soaps represented a distinct advance in the methods of treatment.

Old Fallacies Revived under New Names.—Dr. T. MORE MADDEN read a paper on the recent revival under new names of some old fallacies bearing on medicine, in which he touched on the questions of hypnotism, massage, and faith-healing, characterising them as revival of popular therapeutic theories, methods, or "fads."—Dr. A. N. MONTGOMERY said, with reference to massage, it was a pity Dr. More Madden had not attended the previous meeting of the Section, at which an exhaustive paper on the subject was read by Dr. Kendal Franks, who traced its origin to many years prior to the Christian era, and advocated taking the treatment out of the hands of quacks and charlatans and putting it on a scientific basis, which he had explained. It was also to be regretted that Dr. More Madden, in sending in the title of his paper, had not specified the *fallacies* which he intended to discuss.—Dr. CONOLLY NORMAN said that there was some truth in the phenomenon of hypnotism everybody knew, but that it had the therapeutic effects ascribed to it was incredible and absurd.

A meeting of the Obstetrical Section was held on May 23rd.

Fibro-myoma of Ovary.—Dr. BAGOT showed a Fibro-Myoma of the Ovary, and stated that the tumour was of great interest and importance from a pathological point of view, because there seemed to exist a great difference of opinion as to the nature of that rare class of tumour—namely, the solid non-malignant tumours of the ovary. Some observers stated that they were fibromata, others that they were chiefly fibro-myomata. J. D——, aged forty-four years, married twenty years; had given birth to eight children. In December, 1889, she came to the Rotunda Hospital to have a pessary changed, as she had been wearing it for some time. The following conditions were found on examination: Perineal laceration of first degree; external os patulous; cervix fissured; slight ectropion; uterus normal in size; fundus retroverted towards the left; left ovary normal. There was a tumour of the right ovary, somewhat larger than a walnut. Nothing else abnormal could be made out. The woman had been in bad health, and was complaining of various nervous symptoms; but as none of these could be distinctly traced to the ovary, and as it did not seem to be injuring her in any way, it was not interfered with. The patient had been under Dr. Macan's care since 1884, when the same diagnosis and prognosis had evidently been adopted. In March, 1890, however, the tumour was very much larger, and, as it grew so rapidly, it was thought advisable to remove it. Dr. Earl kindly made a microscopical examination of the tumour, and found the following:—The tumour consisted mainly of unstriped muscle, arranged in bundles. Adjoining bundles ran at right angles to one another. Traversing this tissue were numerous tracts of fibrous connective tissue, rather dense. They presented a somewhat insular appearance, as seen in the sections. Small bloodvessels could be seen here and there, with very thick external coats.

Exhibits.—Dr. W. SMYLY exhibited an Ovarian Tumour complicated with Malignant Disease of the Peritoneum in a patient between fifty and sixty years of age. He made an exploratory incision, and found the multilocular ovarian cystoma. He also exhibited a Cancerous Uterus, which he had removed per vaginam. The patient was an old woman, of very cachectic appearance. A large Fibro-myoma of the Uterus was also shown. When the woman came to the hospital she had a large abdominal tumour, which appeared to be fluctuating. It reached down to the pelvis, and as far as the tuberosity of the ischium.

New Speculum Illuminator.—Dr. MORE MADDEN recorded some observations on the importance of sufficient illumination as an essential element in the diagnosis and treatment of the various morbid conditions of the vaginal portion of the uterus or of the vagina in which the speculum was resorted to. To the neglect of this consideration he ascribed some of the erroneous views and practices which for many years have retarded the progress of gynæcology. This point he illustrated by a reference to the very opposite opinions at different periods held by authorities of equal accuracy and of equal experience with regard to the aspect and character of the most common forms of disease discernible through the vaginal speculum. Had, however, those who thus differed as to the nature and treatment of the pathological conditions presented to visual examination by the speculum possessed instruments such as those now available for this purpose, and enjoyed the advantage of the methods of illumination by which, when necessary, the best of all lights—namely, that of direct sunlight—might be replaced, the heated controversies and fallacious practices of former days might probably have been avoided. This difficulty is met with in the best arranged consulting room, and is still more common in the patient's chamber. He found that electric lamps did not meet the difficulty, owing to frequent defects, either of the battery, connexions, or lamp. On the other hand, if we content ourselves with the more reliable if less elegant "bit of candle end," still recommended by some authorities, the necessity for holding it so as to throw some light into the speculum must interfere with any manipulation required by the case. Dr. More Madden suggests a very portable, many-jointed illuminator, capable of rotation in every possible direction, which can be instantly and securely affixed to any form of speculum, so as not to be in the surgeon's way, whilst affording sufficient and reliable light for all examinations or operations in the vaginal passage. The instrument has been very carefully made, in accordance with his directions, by Messrs. Lynch & Co., Aldersgate-street, London.—Dr. M'VEAGH was of opinion that the illuminator would prove of the greatest use, especially in making examinations in the evening.—Dr. MACAN was sure that the present instrument was a very capable one, but he did not think it a necessity.—Dr. BYRNE said he considered Dr. More Madden's invention very ingenious and simple.

A meeting of the Pathological Section was held on May 30th, Dr. E. H. Bennett, the President, in the chair.

Case of Favus.—Dr. WALTER SMITH exhibited a boy, aged seventeen, suffering from Favus on the non-hairy parts of the body—namely, one patch on the cheek, another on the right shoulder, and a third on the back under the right shoulder-blade.

Porencephaly.—Dr. CONOLLY NORMAN read a paper on Porencephaly, and described a case which had occurred in his own practice. The patient was not an idiot. He exhibited partial right hemiplegia without aphasia. He died of phthisis. The brain showed a large opening on the

left side leading directly into the lateral ventricle, the insulæ, the operculum, and the internal capsule being absent. The optic thalamus and optic tract on the left side were diminutive. He inclined to believe that a case like this was probably a condition of arrested development, and regarded the membrane which closes the opening in these cases as altered wall of the secondary anterior cerebral vesicle which has not developed nervous matter.—Dr. C. J. NIXON remarked that Dr. Conolly Norman had discussed porencephaly as if it invariably had a congenital origin; but it was equally true that porencephaly was acquired—for instance, from injuries several months after birth, or from acute, exhausting diarrhœa, or from a bad form of measles or scarlatina, resulting in infantile hemiplegia or in total paralysis.—Dr. T. MYLES said the photograph shown by Dr. Norman seemed to be one of the brain of an ourang outang or of a South African bushman rather than of an ordinary human brain.

Pneumothorax.—Dr. C. J. NIXON exhibited the right lung of a girl aged eighteen who had been admitted into the Mater Misericordiæ Hospital under Mr. Chance, suffering from strumous disease of the right knee-joint. She succumbed four weeks after the occurrence of the pneumothorax. At the post-mortem it was found that the left lung was in a state of congestion. The right side of the thorax was partially filled with a serous fluid containing pus, while the right lung was completely collapsed. The visceral pleura was of a white colour and considerably thickened. Corresponding to about the lower edge of the middle lobe of the lung was found an aperture through which could be passed a pen-handle leading into a portion of lung tissue which was filled with yellow pus. There was evidence of caseation. Dr. M'Weeney found on examining softened portions of lung two distinct forms of bacilli, aggregations of tubercle bacilli, and the ordinary micrococci of pus. The starting point was the strumous disease in the knee-joint, thence a secondary infection with tubercle bacilli in the lungs; and this set up a broncho-pneumonia; then the products of the broncho-pneumonia of tubercular origin underwent caseation; and then ensued this condition of mixed infection; and, finally, the visceral pleura gave way, which was the condition of pneumothorax set up.

Ovarian Cystoma.—Dr. M'WEENEY exhibited a specimen of Ovarian Cystoma of the Papillary variety. The wavy outline of the papillary prominences was covered with the usual columnar epithelium, lying on a basement membrane and supported by a delicate fibrous tissue, greatly cut up by crypt-like invaginations of the epithelium. Peculiar granules lay below the basement membrane. They were about the size of an ordinary epithelial nucleus or smaller, and took carmine, hæmatoxyline, and the anilines equally well; they were apparently not nuclei, for many lay outside cells, though sometimes several lay inside a cell. On careful examination with a high power each seemed compounded of two or three smaller granules.

Fracture of the Head of Radius.—The PRESIDENT exhibited the first example he had seen of Fracture of the Head of the Radius. As a rule, the injury was associated with fracture of the coronoid process of the ulna, or fracture of the olecranon process, or where fracture of the lower end of the humerus was extended into the radius by direct violence. At the Pathological Society of London, about 1884, a case of the kind was exhibited where the fracture occurred without any other grave lesion of bone in the neighbourhood; and he had also read a recorded case where the fracture of the head of the radius was isolated from other injuries. His own case furnished the third example of fracture of the head of the radius without lesion either of the shaft, or of the adjoining processes of the ulna, or the humerus. The only pathological change connected with the lesion was that of slight arthritis of the lower end of the humerus, indicating something abnormal in the corresponding bone; but all trace of uniting callous was absent.

Specimens from Case of Leprosy.—Dr. O'CARROLL read final notes on his case of Leprosy. The patient had, during the past four months, presented a systolic murmur in the tricuspid area, and suffered much from pseudo-anginous attacks. He died on May 9th, twenty-three years after the appearance of the earliest eruption. At the necropsy the main things noticed, in addition to those detailed in a former paper, were the presence of disseminated infiltrations in the apices of the lungs, a few tubercles in the spleen, ulceration of the tip of the epiglottis and thickening of the mucous membrane of the larynx, and lastly, some changes in nerves.

Reviews and Notices of Books.

A Treatise on Rheumatism and Rheumatoid Arthritis. By ARCHIBALD E. GARROD, M.A., M.D. Oxon., M.R.C.P. London: Charles Griffin & Co. 1890.

WE gladly welcome this treatise from the pen of one who bears the honoured name of a physician who did so much to throw light upon arthritic diseases at a time when such light was sorely needed. Of late years much attention has been given to these affections, and very considerable additions have been made to our knowledge of them, with much advantage to their treatment. But that there is still considerable obscurity attaching to their pathogeny is manifest from the discussion which Dr. Garrod gives upon the various theories propounded to explain the nature of rheumatism, theories all more or less plausible, but none wholly sufficient to explain the varied character of the disease and its associations. For, although the origin of a rheumatic attack in exposure to cold and damp may suggest the intervention of the nervous system in producing the manifestations of the affection, and although the manner in which one or other system, and especially the circulatory and nervous systems, are attacked in the course of the disease suggests an involvement of the blood, yet the precise nexus between the cause and the varying effects is still unexplained. We gather that the author himself inclines rather towards ranking rheumatism with the "infective" diseases, such as acute pneumonia, and the parallel with pyæmia is in accordance with this opinion. The wide subject of the etiology of rheumatism is carefully treated, and it may be of interest to cite the conclusions with which Dr. Garrod sums up the data concerning the general influences that determine attacks of the disease: "First, that although cold and damp are potent exciting causes of rheumatic attacks, meteorological conditions have no very distinct influence in controlling the prevalence of the disease, which may be unusually great under what would naturally be looked upon as conditions unfavourable to its development, and may reach its minimum during a prolonged period of low mean temperature or heavy rainfall. Secondly, that from time to time the disease appears with greatly increased frequency, and such epidemic outbreaks are apparently independent of meteorological changes, or other recognisable external influences. Lastly, that the characters of rheumatism, like those of other epidemic diseases, undergo remarkable variations from time to time, the cases differing not only in severity, but also in the number and character of the structures involved" (p. 48).

The discussion of etiology is completed by a full analysis of the conditions which determine individual attacks. The description of the phenomena of the rheumatic attack which follows is characterised by the same carefulness as that bestowed upon its etiology. The course followed by the pyrexia is contrasted in cases which have been treated on the "expectant" plan and those in which the fever has been cut short by salicylates, and it is shown that a true relapse is different from a mere "recrudescence," which so often occurs in cases treated by those drugs. We may also note in passing that Dr. Garrod rejects a time-honoured belief that the sweat in rheumatism is unduly acid. The special characteristics of rheumatism in children are described in a separate chapter, in which stress is rightly laid on the greater tendency to cardiac involvement and the comparatively slight arthritic manifestations present in early life. Chorea, too, which is again dealt with more fully in speaking of nervous complications, is regarded as being clearly a rheumatic manifestation. Having thus dealt with the symptoms generally, the author takes each group in turn, and thus enters very fully into their manifold relations

and variations. Such a systematic analysis of the subject is very useful, and will be especially welcomed by clinical observers. The amount of information he has collected and the manner in which the facts are marshaled are deserving of all praise. In turn are discussed the arthritic, the cardiac, and pulmonary complications, and the highly interesting series of nervous phenomena associated with rheumatism, notably hyperpyrexia, chorea, and peripheral neuritis. Then follow chapters upon cutaneous manifestations, sore-throat, the interesting "rheumatic nodules," and other topics. Separate consideration is given to scarlatinal rheumatism, and it is pointed out that endocarditis is more frequent in scarlatina than in any other infectious disease, that scarlatinal rheumatism has been followed by chorea, and that subcutaneous nodules have been observed in association with it. Other so-called "rheumatic" affections, of which gonorrhœal arthritis may be taken as an instance, are shown to have nothing in common with true rheumatism. Chronic articular rheumatism—a somewhat confused group of differing forms of chronic arthritis—must in its purer types be considered, according to Dr. Garrod, rather as a sequela than a manifestation of rheumatism. The subject of treatment is first discussed from the historical standpoint, and then the "modern" method—i.e., the use of salicine and the salicylates—is described with considerable fulness. In another chapter the treatment of complications and sequelæ is fairly dealt with, but with judicious limitation in its extent. Of course, the value of cold in the treatment of hyperpyrexia is dwelt on. Much useful information is also given concerning the management of cases of chronic rheumatism. The remainder of the work deals with rheumatoid arthritis. The "dystrophic" theory of its pathology, which has gained so many adherents of late, and has been so ably expounded by Prof. Senator, Sir Dyce Duckworth, Dr. Ord, and others, is the one which seems to the author to best explain its peculiar clinical and anatomical facts. It is pleasant to find him writing somewhat hopefully of the effects of treatment, especially if commenced early in the case. That which he has found most efficacious is a generous diet and tonics, especially iodide of iron; whilst the electrical bath and the value of thermal baths and waters are assigned their due place. A valuable addition to the work is a very complete bibliography, whilst the index is unusually full and thorough. It should be added that the book contains may excellent woodcuts, and that it has been produced in a style that does credit to the publishers. It forms a companion volume to the work on Gout by Sir Dyce Duckworth, recently produced by the same firm.

We think Dr. Garrod is to be congratulated on having put before the profession so clear and coherent an account of the rheumatic diseases. The style of his work is eminently readable, and his opinions are stated in the true scientific method. There can be no hesitation in commending the study of the work to those who desire to be conversant with all that the clinical and pathological observers of to-day have to tell us concerning affections among the most common, and in their results among the most important, of human maladies.

L'Hygiène à Paris: L'Habitation du Pauvre. Par Dr. DU MESNIL. Paris: J. B. Baillière. 1890.

THE dwellings of the poor have forced themselves on the attention of the public of this country as a question of the most pressing character. Dr. Du Mesnil re-echoes the "bitter cry of outcast London" from across the Channel, and describes the haunts of the poor there in a series of papers well deserving attention. The author is a veteran sanitarian and member of the sanitary committee of the Department of the Seine, and papers by him on subjects allied to the above work have more than once been the means of stirring the Academy of Medicine and even the Government to take action to ameliorate the condition of the dwellings of the poor in Paris. From his description the condition of streets and even groups of streets in Paris is horrible in the extreme. With a facile pen he brings before us pictures of some of the dens where physical disease, acute and chronic, is the permanent associate of bodies deformed and degenerate by want and misery. He gives details of homes where the rooms are without windows or chimney, where there are neither rain-pipes, water-pipes, nor water; no drains, or even privies, the uncovered surface of the ground being the receptacle for every kind of filth, the walls and floors reeking with ordure. Here were pens in which men, women, and children existed day and night as best they could, huddled together in disgusting promiscuousness. One such pen contained sleeping places for four persons, and measured 99 cubic feet. But it is in the unoccupied spaces in the suburbs that the condition of these wretched people is seen at its worst, herded together in makeshift dwellings of all kinds. The Maison R. is an old waggon in which six persons, males and females, live like beasts. Dr. Du Mesnil gives valuable details as to the influence of such places on the health of the inhabitants, and cannot resist the exclamation: "It is not virtue, it is heroism alone which can prevent the crowds in these dreadful dens from hating the world which tolerates them." It seems strange to find the author seeking for arguments to prove that the abolition of these unhealthy warrens would not be a violation of the rights of property. In England we have advanced further than the French in these matters. The extraordinary delays which a property owner in France can manage to secure before even the most deadly dens are closed as habitations are in striking contrast with the ease and speed with which in England an active medical officer, if not interfered with by his authority, can deal with such rookeries. But there still remains the problem what to do with the poor evacuated tenants. Healthy dwellings are really not dearer than many of the worst in the slums, and there is every reason to press for better housing, which would bring with it freedom from many sources of moral as well as physical degradation. We can heartily recommend Dr. Du Mesnil's book to all interested in this subject.

A Handbook for the Nursing of Sick Children. By CATHERINE JANE WOOD. Pp. 248. Cassell and Co. 1889.

WRITING upon a subject with which she is thoroughly conversant, Miss Wood cannot fail to be both interesting and instructive. She is firmly convinced that ignorance and indolence are responsible for a large amount of unnecessary waste of infant life, and her conviction will be fully shared by all medical men who have witnessed the disastrous results of haphazard feeding and unskilled nursing. The subject, however, is one which is extremely rebellious to systematic treatment; different sections are difficult to keep apart, while much that is true for the nursing of children is equally true for the nursing of adults. Conscious of these pitfalls, Miss Wood has made her present book a complement of her previous handbook, and, upon the whole, it may be said that the result is satisfactory. The book consists of twenty short chapters, but the headings of these are sometimes rather misleading, and the principles upon which they have been arranged are difficult to grasp. Some chapters are concise and thoroughly practical, while in others, notably in Chapters I., II., and XVII., generalities are dealt with in provoking fashion. Still, for the use of those for whom this book is intended, most pages will repay careful perusal. Useful hints and directions are scattered lavishly throughout, and a very full index makes up for the imperfections of the table of contents.

New Invention.

A NEW NASAL SNARE.

THE object aimed at in the construction of this snare has been to combine the advantages of the instrument designed by Dr. Jarvis of Boston with those comprised in Sir Morell Mackenzie's cogwheel écraseur. The great superiority the latter presents over all other instruments of its class lies in the fact that it can be firmly held so that the hand is below the field of vision, while it can be worked with the same hand, leaving the other free for holding the speculum, or, in certain cases, for controlling the noose with the fore-finger in the post-nasal space. In the removal of nasal polypi its rapidity of action is another considerable advantage, and for such growths no better instrument can be devised. But this very rapidity of action—indeed, the impossibility of working it slowly—is a great disadvantage in the removal of hypertrophied portions of the inferior turbinated body, since a not infrequent difficulty after such operations is the hæmorrhage consequent upon opening the venous sinuses of which such growths are largely composed. But clinical experience has shown that the largest portions may be removed with Jarvis's snare without losing a drop of blood, provided sufficient time be expended in tightening the wire loop, twenty or even

thirty minutes being allowed before the offending mass is finally severed. It is only with a slow screw action of such an instrument as Jarvis's that this is possible. On the other hand, the great disadvantage of his instrument is that it requires two hands or the help of an assistant for its manipulation, while, even then, the difficulty experienced in retaining it firmly in position until the noose is tightened is so great that not infrequently the operator discovers that he has removed a much smaller portion than he had at first included in his noose. In the instrument figured in the accompanying woodcut the principle of Jarvis's instrument is adopted, so that any desired length of time may be occupied in the operation. A stout handle is attached to the shaft at the proper nasal angle in such a manner that the hand does not obscure the field of vision, while behind the angle of junction, at right angles to the barrel, a little capstan projects which can be easily rotated with the thumb by the four attached levers. The action of this is to withdraw the central screw with the attached loop of wire, in a manner similar to that adopted by Jarvis. A secondary advantage which this new instrument possesses over all others consists in the fact that, by reversing the action of the capstan, the wire is again extruded from the barrel, and can be utilised for a second or third operation. This withdrawal of the wire is a great trouble in all other instruments. The snare has been constructed under the direction of the writer by Messrs. Mayer and Meltzer.

Harley-street, W. GREVILLE MACDONALD, M.D. Lond.

VOYAGING FOR HEALTH.

To the Editors of THE LANCET.

SIRS,—I have read with much interest Mr. Doyle's sagacious and instructive notes on "Voyaging for Health," partly because I am, to some extent, familiar with the *Sobraon* as a first-class "health ship"—having some years ago been offered the medical charge of the vessel,—but much more because I would endorse and confirm most strongly the intelligent suggestions which he has enunciated in reference to the question of sea-voyaging. Having undertaken several voyages as medical officer in charge and as passenger, and having held official appointments for several years in New Zealand, I can sustain all that he has laid down, and I would very earnestly urge the advantage of a sailing vessel over a steamship, if the voyage be undertaken purely or mainly for purposes of health. There is no comparison between the smooth, equable, soothing, and yet inspiriting movement of a well-constructed sailing vessel, with its cleanly, healthy surroundings, and the miserable jarring motion of the steamship, with its never-ending vibratory thrill, and the apparently inevitable odour of oil or steam-packing, most trying to the nerves of sensitive patients. I maintain most strongly that there is also no comparison between the benefits often to be gained from a quiet leisurely voyage in a well-equipped, well-conducted sailing vessel, as compared with that to be derived from a hurried passage in a steam vessel, however well furnished, with its frequent stoppages, crowded berths, miscellaneous company, and hotel-like surroundings. The quiet, calm, monotonous life from day to day of the one—the *dolce far niente*—is the very condition needed for invalids suffering from overstrung nerves, exhausted energies, cumbered lungs, and embarrassed livers; and there is no comparison tenable between the results of the two systems. But, besides this, the subject is not entirely comprised under the items which I have mentioned. There are steam-vessels and steam-vessels, the owners of some of which lay themselves out for the comfort and well-being of their passengers, whilst others appear to ignore all responsibilities of this kind, and to desire only to secure profit. I have sailed under flags of both orders, and I have come to the conclusion that it is never safe to trust to the reputation of any company, since there are "ins and outs" of chartering which nullify conclusions otherwise reliable. I have twice sailed in vessels belonging to companies of the highest reputation nominally, the management, appointment, and general conduct of which were utterly disgraceful, and painfully inimical to the interests of the many invalid passengers on board, and the conclusion to which I have come is that it is absolutely necessary to have direct and specific testimony as to the character of any vessel in question and the officers in charge. Then, again, very grievous ignorance seems to exist amongst medical men as to the conditions, morbid or otherwise, under which sea-voyages are to be advised. So greatly am I impressed with this fact that under the strong pressure of medical friends I am now endeavouring to lay down a few simple indications which may serve equally as a health guide to invalids seeking the benefit of a voyage to Australia or New Zealand, as well as those who are contemplating a permanent residence there. The apparent recklessness which patients under the most varying conditions are sent out for a voyage or for a sojourn in the colonies of Africa, Australia, or New Zealand is surprising to medical men who have resided in those colonies, and most pitiable in the results upon the invalids. Upon this topic I hope, as I have said, to speak at greater length than I can hope to find space for in your columns.

I am, Sirs, yours truly,

JOHN W. KEYWORTH, M.D. Lond. &c.,
Late Medical Officer in Charge of the Wellington, Napier, and Wairoa Hospitals, New Zealand.

Southport, Aug. 5th, 1890.

THE POLLUTION OF THE RIVER AIRE.—At a meeting of the representatives of Leeds and Bradford Corporations, held at the Leeds Town Hall on the 13th inst., to further consider the question of the pollution of the river Aire, it was determined that a joint communication, signed by the respective town clerks, should be forwarded to the Local Government Board.

THE LANCET.

LONDON: SATURDAY, AUGUST 23, 1890.

THE session of Parliament is over, and no one will regret the fact. The first feeling in regard to such an event is one of great relief. The strife of political tongues is becoming one of the evils of the time. On all other subjects men can talk with mutual respect, but in this region opposition reigns, and is erected into the rank of a virtue. Legislation will never be much better till it can be done more in the way of consultation, when men of different opinions can give each other credit for meaning the same good to the nation. What would be thought of a consultation of our chief physicians and surgeons which should divide itself, of necessity, into two sides, the one to denounce as wrong all that was done by the other, and in which Sir WILLIAM JENNER and Sir JOSEPH LISTER should label as incurably faulty and incompetent all the treatment suggested by Sir ANDREW CLARK and Sir WILLIAM SAVORY? What would become of the patient? It is out of our province to take sides in politics, but we have a right, as representing the suffering nation, to denounce the political ethics that encourage strife as a public nuisance, as hindering thorough and beneficent legislation, as magnifying little questions and belittling great ones. No doubt political questions are difficult and complicated. So are medical ones. But that does not alter the fact that the patient fares best when the consultants act with a view to his having the advantage of the wisdom of both sides. And we declare our conviction that political work would be more improved by the importation of civility and consultation than by any mere change in law or standing orders.

Owing to the want of these elements and the reign of strife the recent session has been struck with barrenness. The Chancellor of the Exchequer found himself embarrassed with more than two millions of surplus, the result, we grieve to say, of excessive drinking—of what he called a universal rush to the beer barrel, the wine bottle, and the decanter. If ever there was a question for passionless discussion it was such an one as this, involving not only the best use of a large sum of money, but the extrication of the people from one of their deepest and oldest vices. But the opportunity was in a great measure thrown away by the combined error of all parties and the absence of the spirit of conciliation and consultation.

There are few matters of great interest to the profession to record. Parliament becomes increasingly a medium for putting questions, if not for passing laws. And one of the most favourite pastimes of the disaffected and the impracticable is to put questions to Ministers on little local topics, such as a fancied injury to a child from vaccination, or the hardship of a pupil teacher having to be vaccinated as all other pupil teachers require to be.

One of the most important events of the session was the success of Lord SANDHURST in asking from the Government the appointment of a committee of the House of Lords on Hospitals and their administration. The inquiry proceeds in a somewhat lively and discursive manner. It cannot fail to elucidate the working of our voluntary hospital system, and we devoutly hope it will be of advantage in publishing its great virtues, while suggesting remedies for its undoubted abuses, especially in the out-patient department. A Bill was introduced called the Infectious Diseases Prevention Bill, which in debate was shorn of many of the severest provisions which it contained in its first form, such as requiring the vendors of milk and laundresses to produce a list of their customers, and even medical men to produce the list of their patients. If medical officers of health act with consideration, on the one hand, to those who are unfortunate enough to have infectious diseases in their houses, and on the other to medical practitioners, who have the great responsibility of attending and notifying such cases, they have now pretty ample means of getting at all the essential facts of a patient's case and its environment. But much judgment and tact are now the great desiderata in health officers, and these are qualities nearly as rare as genius itself. A Bill to provide for the registration of Midwives was introduced by Mr. FELL PEASE, Sir WALTER FOSTER, Dr. FARQUHARSON, and others, and was sent to a Select Committee. But its further progress was barred by many amendments. Such a measure is inevitable. But consideration is needed to secure the greatest amount of good and the least harm. The housing of the working classes was the subject of a Bill chiefly of a consolidating effect, but Mr. RITCHIE was congratulated on it by Sir WALTER FOSTER and other political opponents. The Infant Life Assurance Bill has been referred to a Select Committee of the Lords, on the motion of the Bishop of Peterborough. Much serious and striking evidence has been given before the Committee. Not the least achievement of the session has been the passing of the Contagious Diseases (Animals) Pleuro-pneumonia Act, to which Dr. FARQUHARSON and Dr. CAMERON gave a hearty approval. It provides for early information of cases of the disease, for their slaughter, and the compensation of the owners, chiefly out of Imperial funds. The great question of tuberculosis in cattle and its bearing on human disease was skilfully transferred by Mr. CHAPLIN to Mr. RITCHIE, who refers it for scientific investigation. Dr. CAMERON did important service in bringing to the notice of the Government the fact that 15,000 persons die without a medical certificate of death being forthcoming. We understand him to be satisfied with Mr. RITCHIE'S promise to appoint a Select Committee. The question is one almost of urgency in view of the development of cremation. And apart from this, such cases are a discredit to our civilisation.

IN whatever department of thought we find it occupied, the very nature of science is hostile to uncertainty. Facts, indeed, are not its constant possession, but its object, nevertheless, is always to know the truth as true beyond possibility of doubt. Nothing therefore can, in strict conformity with its character, be received on mere trust. All that is accepted must be capable of proof, and anything that cannot be thus verified, though true it may be, is to science a thing not known. In reference to all such matters, its

position is that of the agnostic, properly so-called, not, that is to say, of a mere creedless bigot, but of an expectant and cautious investigator, accepting in belief only that which he has proved. In virtue of this very position, however, the description here given is but a partial one. It applies rather to a purpose than an actual condition. It is a true portrait of exact science only, and it leaves untouched the illustration of that far-reaching principle by which every branch of knowledge is made subject to the law of development and passes through doubts, conjectures, and shrouded truths to the brightness of clear understanding. Science is no exception to this rule. It has its tentative theories, its mutable facts, and provisional acceptances, and its position would be logically untenable if it were to deny to other modes of thought a share in that charitable consideration which allows time for its own conclusions, however crude, to be planned, marred, recast, and slowly matured. The assumption of such a position would indeed be suicidal, for it implies a fatal schism among the forces concerned in philosophic inquiry. Science and philosophy, it must be remembered, are not contraries. They are merely the obverse and the converse of the same intellectual process, the former objective the latter subjective as to its rational method. Either may, in the wider acceptation of its meaning, be taken to include the other, and it is only the prominence of one, the physical application of scientific study, which has associated the former with what we call matter, as distinct from spirit or mind, the natural sphere of the latter. However diverse they may seem to be, distinction between mind and matter is, in the present state of our knowledge impossible. We are as yet without experience or information respecting the separate condition of one or another. At all points matter is instinct with incorporated properties which constitute the law of its being, though whence derived its atoms cannot tell us; and mind, on the other hand, can only confess itself through its physical manifestations. Though we should penetrate if it were possible beyond the earliest known traces of our world, we might still be as far as ever from a solution of the mystery, but at no stage could we expect to pass beyond the age at which these two became united. Everywhere we still find, whether in vital activity or in the buried vestiges of world-old existence, the sure signs of cause and effect. The design may vary, but its evidences are never wanting. Some, perhaps, may prefer to regard it as the essential possession of matter, and to dignify this with the attributes of a creator. We cannot but think, however, that the very diversity of material forms, and their infinite variation in conformity with some discoverable purpose in each case, mark them out rather as the vehicles of some compelling force implanted in them. That this force is not purposive, but fortuitous in its action is incredible. Given a certain stage in the progress of development, circumstance may, indeed, accomplish many modifications, as the laborious genius of DARWIN has abundantly proved; but even these are governed by strict limitations, are apt to be transient in character, and are rather differences of degree than alterations in type. The argument for intelligent design is not seriously impaired, in our opinion, by such evidence of a merely material agency, and there is every reason to believe that this view is yearly gaining ground among the more scrupulous thinkers in physical science. It is significant to find an authority like Professor TYNDALL, despite his belief in matter and force as primary factors in the production of life, admitting the probable existence of a "power of creation," which he associates with evolution, and proposes to invest with some feeling akin to worship. Professor HUXLEY'S condemnation of materialism as "the most baseless of dogmas" is also—at least constructively—suggestive of a disposition to include within the beliefs of natural science the existence of a supreme directing intelligence.

DR. E. KÜMMER of Butini has called attention in an interesting *brochure* devoted to the subject, and read before the Medical Society of Geneva, to the extreme frequency of cocaine toxæmia when the drug is employed in the usual method by subcutaneous injection. Reviewing the history of the use of cocaine as an anæsthetic, Dr. KÜMMER says that the enthusiasm with which the drug was at first received was soon succeeded by a wiser caution, aroused by the painful frequency of mishaps from its employment. The extreme view which many surgeons now entertain, and which would condemn the use of cocaine at all, is, he thinks, to be deprecated, because a safe and satisfactory result can be obtained by the method he advocates—namely, the employment of very small doses (0·05 gramme as a maximum), together with the "incarceration" of the injection (CORNING) by means of an ESMARCH'S bandage. That cocaine injections are liable to produce grave dangers Dr. KÜMMER amply shows. Thus he cites M. ROUX, who with an injection of 0·055 gramme produced in a patient violent tetaniform seizures, with opisthotonos, tonic contraction of the muscles of the extremities, and great interference with respiration. A patient under the care of Dr. STEPHENS of New York became unconscious, violently convulsed, and alarmingly dyspnœic after a subconjunctival injection of nine minims of a 3½ per cent. solution of cocaine. In another case a dentist injected 0·11 gramme into the gum of a chlorotic girl with the following result: She became blanched, fell down on the floor, and violent convulsions supervened. She rapidly grew cyanotic, and clonic contractions of her limbs persisted for five hours; the pulse was almost imperceptible and 116, respiration feeble and 44, the pupils being widely dilated. This condition of collapse lasted two hours, and was succeeded for days by diminution of cutaneous sensibility, anæsthesia of the mucous surfaces, retention of urine, violent cardialgia, and prolonged anorexia. Very similar symptoms followed in another case the injection into the urethra of one drachm and a half of a 4 per cent. solution, but in this instance epileptiform seizures developed upon the return of consciousness. In all these cases the dose used was from 0·18 to 0·05 gramme, a much smaller dose than that which M. RECLUS, a warm defender of cocaine, lays down as a safe medium dose. A child aged four took 0·25 gramme by the mouth and became convulsed, and for some hours choreiform attacks were determined by any movement. Dr. KÜMMER points out further that many deaths have occurred from cocaine, and cites the following: The

well-known case of Dr. COLOMINE'S patient, who died from the effect of cocaine. Another case, where 0·75 gramme proved fatal, is recorded by Dr. SIMES of Philadelphia; one drachm of a 20 per cent. solution was injected into the urethra, and death resulted in twenty minutes. RICCI (*Deutsche Medicinische Wochenschrift*, No. 41, 1887) records a case which, although not fatal, presented the peculiarity that the patient suffered from relapses, even for days. The method Dr. KÜMMER has been employing seems to owe its success to the fact that the ESMARCH'S bandage prevents absorption of the cocaine, and thus, while it aids the local action of the drug, restricts it from entering the blood stream, and so prevents its action upon the central nervous system. That this is really so is further proved by experiments which he has made. He bound a limb of an animal with an ESMARCH'S bandage, and found that so long as the bandage remained tight only local effects obtained, but as soon as the bandage was relaxed toxic symptoms rapidly appeared. In practice Dr. KÜMMER finds that the injection below the bandage of quite small quantities of cocaine produces anæsthesia of the skin, due, he believes, to the anæmia of the part, but a more satisfactory result follows the use of a second bandage beyond the ESMARCH'S. The deeper structures are not, in his experience, rendered truly insensitive, and he comes to the conclusion that when operations have to be performed upon the trunk or upon the deeper parts of the limb, cocaine is unreliable as an anæsthetic and unsafe, and he advises rather the use of chloroform or ether.

THE subject of premature burial has been of late revived in this country by the appearance of sensational paragraphs in the daily press. Not long ago the public were horrified by a story from Leeds of a gravedigger having heard sounds proceeding from a coffin recently buried. It required a coroner's inquest, and the evidence of Mr. SCATTERGOOD, the lecturer on Forensic Medicine, to reassure the public that the rumour was false, the deceased woman having died a perfectly natural death, while, although its cause was typhoid fever, the burial had been by no means hastened, and it was clear that death had taken place at the time stated by those around her. More recently there was the sensational story from Southampton of a clergyman who stopped the interment of his friend, whose funeral he had come from a distance to attend, on the grounds that he saw some sign of life, which proved to be simply his own imagination. So far as this country is concerned, there has not been a single *authenticated* case recorded of premature burial, though there have undoubtedly been cases where persons have revived after apparent death, and many alleged cases of premature burial in addition to those previously alluded to. But all these have the appearance of sensational stories, manufactured for the "penny dreadfuls" and those newspapers which thrive on sensation. Even on the Continent, in America, and in other countries where in consequence of the intense heat burial must take place within twenty-four hours after death, the authenticity of the stories of alleged premature burial has never been proved, and it may be safely asserted that one genuine case would have led to an alteration in the law and the postponement of burial until after a longer period. In England, on the contrary, there is less reason to complain of too speedy burial as of too prolonged an interval between death and burial. Mr. SEYMOUR HADEN'S suggestion of burial within thirty-six hours was not favourably received, and is indeed for this country too short an interval. A universally exact interval cannot be laid down; it must vary according to the time of the year, the weather, and other circumstances. In these days of cheap disinfectants a body can be kept without prejudice to the living for four or five days after death, which interval is long enough to satisfy the wishes of the most timid. There is a circumstance well known to the profession which, if it were better known to the public, would go far to reassure those whose minds may have been disturbed by these sensational paragraphs. Every day bodies apparently lifeless are received at metropolitan and provincial hospitals, having been found in every variety of posture, clothed, half-clothed, or naked, and under varying circumstances. At the hospital the resident surgeon must give a prompt and decisive answer to the question, "Is he (or she) alive or dead?" To send a corpse to the ward or to keep it unduly long in the reception room would be a very stupid blunder; to send a living person to the dead-house would be a crime. These cases amount in the aggregate to thousands annually, and yet we have never heard of a mistake being made. It is probably this circumstance which makes members of the profession sceptical of these stories of so-called premature burial, and causes them to reject with an incredulous smile the suggestion that so horrible a fate might occur to any of us. In addition to the cases taken to hospital, there are many cases of sudden death occurring at home and elsewhere to which private practitioners are called, with similar results. A society has been formed in New York city for the prevention of premature burial, the chief mover of which is Dr. LEO, who is stated to have had considerable and varied experience in Heidelberg, in Paris, at St. Bartholomew's Hospital, London, and as a medical expert in New York. He has expressed an opinion that persons are only too frequently buried with a degree of hurry and carelessness that is scandalous, if not criminal. He suggests that in every case where a person dies or is supposed to have died, a competent physician should at once be called in, and that no undertaker should be allowed to handle the body before that is done. Further suggestions are given, the object of which is to cause an alarm bell to be sounded on the slightest movement of the body. It will be interesting to watch the results of this Society, but for the reasons which we have already given there are no grounds for establishing a similar association in this country.

IN his first annual report on the sanitary state of the St. Olave District, Dr. F. P. WIGHTWICK tells a story which is well worthy of note. From the moment of his appointment as medical officer of health he had been struck with an excess of sickness in a blind alley known as Sard's-rents, where 211 people lived in thirty houses, the population being of a class often bordering on destitution, and the houses being mostly old, offensive from dirt and want of

ventilation, and in part dilapidated. With the winter of 1888–89 certain occurrences of disease were observed which were distinctly obscure. The patients mostly had pneumonic symptoms with fever and delirium, and some of the fatal attacks were put down to pneumonia, bronchitis, &c. As fresh cases cropped up Dr. WIGHTWICK became suspicious, and sought the assistance of a physician to a general hospital, but the actual cases then available for examination were not definite enough to warrant a conclusion. Again fresh cases came under observation, and Mr. SHIRLEY MURPHY, medical officer of health to the London County Council, was asked to see them. Mr. MURPHY'S exceptional experience at the London Fever Hospital enabled him at once to suspect that typhus might be the disease which was prevailing in Sard's-rents; and this view was confirmed by the circumstances of housing and destitution under which the disease had been maintained into the autumn of 1889; the correctness of this view being further supported by the trivial character of the disease when it attacked young children. Directly it was found that typhus was in question, isolation in hospital was strictly carried out, food that could be easily assimilated was supplied to the destitute, the people were provided with temporary shelter whilst their houses were disinfected, infected clothing and bedding were destroyed and replaced at the cost of the rates, and a number of the houses were condemned as unfit for habitation. And the result was that the disease at once ceased.

So few of the rising generation of medical men have had the opportunity of seeing typhus, that the uncertainty which in this case prevented an early diagnosis of the disease is not an uncommon occurrence in the history of recent typhus prevalences; and no discredit would have attached to the medical officer of health of St. Olave's if he had been content to accept the current views as to the nature of the prevailing affection, and this especially after having on one occasion sought help in a consultation. But very great credit is due to Dr. WIGHTWICK for his persistent pains to determine the true nature of the disease which was prevailing in his district. Had it been allowed to continue through the past winter London might have suffered from a serious epidemic of typhus; indeed, some spread into an adjoining parish did actually take place; whereas, under the actual circumstances which we have detailed, not only was this calamity prevented, but one more of those spots in London in which typhus can maintain itself has been got rid of, and a distinct source of danger to the metropolis has been removed. The relationship which was established between the local officer of health and the London County Council officer on this occasion is one that served an important purpose in so far as the protection of the metropolis from preventable disease is concerned, and it is one that may well serve as a useful precedent.

IT is reported that a serious outbreak of enteric fever has taken place at Murstow, near Sittingbourne; and we assume that its cause has not been fully dealt with, since it is alleged to be still spreading. The sanitary authority have a good isolation hospital, and a number of patients are stated to have already been received into it.

Annotations.

"Ne quid nimis."

THE REPUTED CASE OF CHOLERA IN LONDON.

SOME apparently unnecessary alarm has been caused by the report that a case of Asiatic cholera had appeared in the docks. The facts, as reported by Dr. Hill, acting port medical officer, and Dr. Collingridge, who returned to town for the purpose, are as follows: The patient left his vessel, the ss. *Duke of Argyll*, in the Victoria Dock, on the 10th inst. at 5 P.M., taking all his clothes with him. At that time, so far as is known, he was in his usual health. He went to live at a boarding house in Whitechapel, and continued well until Monday, shortly before midnight, when he was seized with vomiting and purging, but did not seek medical assistance. On Tuesday morning, on his way to the Tidal Basin Shipping Office, he was again attacked with the same symptoms, appeared very weak and ill, and, rapidly becoming worse, was eventually taken to the Poplar Hospital. On admission he was suffering from marked collapse, cyanosis, cramps, and violent vomiting. Under treatment he is rapidly recovering. Though the *clinical* symptoms point to Asiatic cholera, there would appear to be nothing incompatible with the diagnosis of severe so-called English cholera, or cholera nostras, cases of which are by no means uncommon in this country during the summer months. Every possible precaution has, however, been taken in the interests of the public health. The vessel has been fumigated and her water tanks emptied and cleansed by the Port of London Sanitary Authority under the supervision of Dr. Hill and Inspector Spadacrim. The conveyances by which the patient travelled have been traced and dealt with by the West Ham Sanitary Authority, while the house, clothing, &c., have been thoroughly fumigated and cleansed by Mr. Loane, medical officer of health of the Whitechapel Board of Works. The improbability of the case being one of Asiatic cholera rests on the facts that no other cases of a like nature have occurred on the voyage or since, and that all clothing and effects in the possession of the patient had been used by him during the voyage; and, further, that he was in his ordinary health on arrival. A possible source of infection has been suggested in the wearing of a suit purchased in a Calcutta bazaar. It has, however, been proved that the suit was bought in London after his arrival. The circumstances of the case having been investigated by Mr. W. H. Power, of the Medical Department of the Local Government Board, that Board has issued a statement to the effect that the patient "has been suffering from symptoms which, although clinically indistinguishable from true cholera, are from time to time observed in cases of cholera nostras, such as occur annually in London and other large cities."

We have been favoured with the following clinical notes of the case by Mr. F. Corner, M.R.C.S., house-surgeon to the Poplar Hospital:—"Robert Teigh, thirty-five, coal trimmer of ss. *Duke of Argyll*, now in Victoria Docks, was admitted to this hospital at 3 P.M. on Wednesday in complete collapse, cyanosed, cold, pulseless, cramps in thighs and legs, later in abdomen and shoulders. He was conscious, and gave an account of himself. He said that on Monday, the day after arrival, he went ashore, sleeping in a coffee-house. There he had some food, consisting of fresh meat and vegetables, and retired to rest. During the night he had intense vomiting and purging, with cramps, but in the morning felt well enough to go to the Tidal Basin to be 'paid off.' At the office there he was

again taken ill, but more severely, the cramps, vomiting, and purging being intense, and it was from there that he was removed on a stretcher here. Soon after admission I gave him some spiritus ætheris co. and sal volatile, which he immediately vomited. I then injected half an ounce of brandy subcutaneously without any appreciable benefit; the dose was repeated in about an hour, and the patient rallied a little. Mr. F. M. Corner of Poplar then saw the case. Hot bottles, sinapisms to chest and abdomen were ordered, and hot flannel with turpentine sprinkled on was applied to the extremities, the patient being placed before a good fire. After this treatment he greatly improved, but later became very restless, and vomited twice. Cramps reappeared and a hypodermic injection of morphia, one-eighth of a grain, eased him. He then gradually improved, and at 2 A.M. perspired freely, but was still cyanosed and had the extremities cold, eyes sunken, voice husky, and was suffering from intense thirst, which was partially relieved by sucking ice. During the night he passed two motions, both very copious. The first was watery, flocculent, and offensive; the second looked like water, with slight admixture of thin milk, and was slightly tinged with blood and smelt but slightly. His temperature has varied between 96° and 98·5°. Urine was voided with the motions, and was not examined; previously the bladder was empty, and I can only rely on the patient's statement that he passed a little urine, and that twice. To-day (Thursday) he is much better; has not vomited or been purged; cramps have been absent, and he has been able to take milk and soda-water, with brandy, at intervals; his skin and extremities are warm, but the colour changes frequently. He has been seen by Mr. Bowkett and Mr. Brownfield of the hospital, by Mr. W. H. Power, Dr. Hill, Mr. Shirley F. Murphy, and other gentlemen."

"NEW" MANCHESTER.

THE Manchester Extension Bill having now received Royal assent, practically without amendment, notwithstanding the opposition of the Lancashire County Council, will come into operation on the 1st of November next. It now, therefore, becomes interesting to note what is the precise effect of this, the largest of the many successful borough extensions that have this year been in various ways brought before Parliament. The Liverpool Extension Bill, a still more ambitious scheme, was rejected in committee. "Old" Manchester—that is, the city of Manchester as it existed at the time of the last census—had an enumerated population in 1881 of 341,414 persons, showing a decline of nearly 10,000 from the enumerated number in 1871. By the City of Manchester Extension Act of 1885, however, the two local government districts of Bradford and Rusholme and the township of Harpurhey, with a population in 1881 of 32,169 persons, were added to the city. By the Extension Act now sanctioned by Parliament, which will come into operation on Nov. 1st next, the local government districts of Crumpsall, Newton Heath, Openshaw, and part of Gorton, as well as the townships of Clayton and Blackley and parts of the townships of Newton Heath and Clayton, will be absorbed into the city of Manchester. The aggregate area now to be added to the city is larger in extent than "Old" Manchester, and had in 1881 a population of more than 80,000 persons. Thus the area of "New" Manchester had in 1881 a population of probably 460,000, exceeding by nearly 120,000 the population of "Old" Manchester as it was constituted at the date of the last census in 1881. Apart from the changes that will be effected by the adoption of municipal government within this large and extended area, the extension will very materially affect the vital statistics of the city of Manchester, and render future statistics of the city somewhat difficult of comparison with the statistics of the old city for past years. Population within the restricted area of the old city was a declining population, whereas the population of the area of "New" Manchester showed a considerable increase between 1871 and 1881, and it has probably increased at a still greater rate since 1881. Then the death-rate of the comparatively suburban area to be added to the city, with a population of more than a third of the population of the old city, is probably abnormally low, as suburban death-rates generally are, on account of abnormal age-proportion and of the large proportion of domestic servants. The death-rate of "New" Manchester will therefore show a marked decline compared with the death-rate of "Old" Manchester, no part of which decline will be justly attributed to the improved system of sanitary administration now under discussion in the Manchester Borough Council. The medical officer of health for the city (Dr. Tatham) may, moreover, be trusted to deal in a lucid manner with this disturbing element when dealing in his reports with the vital statistics of "New" Manchester.

ANILINE DYES IN SURGERY.

PROFESSOR GARRÉ and Dr. TROJE of Tubingen have recently published an account of their researches on the new aniline dye antiseptic, pyoctanin, from which it would appear that this substance is hardly to be credited with all the wonderful power ascribed to it by Professor Stilling. They find that so far from being extremely diffusible, it does not seem able to gain an entrance into tissues that are at all indurated. Thus in a case where large quantities of a ½ per cent. solution had been injected into the cavity of an abscess of the thigh, it was found post mortem that the walls of the cavity were not even stained. Whitlows and other suppurating sores of the hand were dressed, after having been opened, with pyoctanin, but though there were no undesirable effects there was certainly no more rapid cure than there is in similar cases when more ordinary treatment is adopted. Dr. Troje remarks that there is plenty of evidence in literature that many kinds of bacteria are not destroyed by aniline staining. For example, Cornil and Babes recommend that methyl violet should be used for staining living bacteria. Baumgarten recommends vesuvin, and Birch-Hirschfeld fuschin and methyl blue for the bacilli of malignant pustule. Again, according to numerous authors, colouring nutrient culture media with various aniline colours does not prevent bacteria from multiplying in them. Experiments made with pus cocci showed that a solution of methyl violet of the strength of 1 in 1000 does not destroy them even in twelve hours. It therefore seems to Dr. Troje that the name pyoctanin is not deserved. Dr. Fessler, of the Munich clinic, has obtained better results than the Tubingen observers. He employed "superfine" methyl violet from a dye shop, which he used in a solution of the strengths of 1 in 10,000 to 1 in 1000 for washing wounds and sores, and for impregnating cotton and gauze dressings. He found that a cure was effected very rapidly, the results being especially good in the case of contused deep wounds with discoloured edges. The only objection he sees to the use of this substance in practice is its powerful staining qualities.

STRANGE CASE OF ASPHYXIA ON SHIPBOARD.

AN Italian correspondent writes:—"An occurrence as strange as it is tragic is just reported from Sicily. At Milazzo, a seaport of that island, a barque had put in after a voyage from Genoa, having in her hold by way of ballast a number of wine-butts which, encrusted on their insides with tartrates, had, to give them the necessary weight, been filled with salt water. On coming into harbour these butts had to be emptied before refilling them with wine,

and for that purpose one of the crew, having raised the trap-door admitting to the hold, went down to tap them and run their contents through the drain-holes into the sea. No sooner had the bungs been knocked out than forth rushed a poisonous gas, which took the man's breath away and made him fall, a corpse, into the escaping salt water. In ignorance of what had happened, a second mariner, then a third, and finally a fourth went below—each in turn to be asphyxiated instantaneously and to fall headlong into the salt water, now of some depth in the hold. As the butts continued to empty the poisonous gas increased, and the captain, wondering that none of the four men reappeared, went, out of curiosity, to the trap-door, only to receive a tremendous rush of the gas in his face, and to fall below, asphyxiated and drowned. The cabin boy, the sole survivor out of a crew of six, seeing what had happened shouted wildly for help to the by-standers on the quay. Assistance soon came, and the stifling fumes, by this time escaped or so diluted as to be innocuous, admitted of the newcomers looking down into the hold. There were the five men quite dead floating in the water. The corpses were hoisted up with ropes, and the medical officers, who had now arrived, pronounced them past recovery. They explain the tragic incident, fortunately a very rare one, by supposing that the salt water, enclosed in the wine-butts during many hot days of midsummer, had from contact with the incrustation of tartrates developed a fluid which, assuming the gaseous form, becomes a powerful asphyxiant. Had this danger been foreseen it might have been averted by hoisting the butts out of the hold, and then plunging them into the sea, where they could easily have been tapped, and have so discharged their poisonous contents to be diluted and made harmless in the water."

THE MICROBE OF GRANULAR OPHTHALMIA.

DR. SHONGOLOWICZ, in a long article published in the *St. Petersburger Medicinische Wochenschrift*, describes a plan of preparing and staining specimens of granular ophthalmia by means of which the true nature of the microbe, which is the cause of this disease, can be made out. This is not, as has been supposed by other observers, a micrococcus, but a short bacillus, from 0·75 μ to 2 μ in length and 0·3 μ to 0·5 μ in breadth. It is not easy to stain, gentian violet being on the whole the best stain for the purpose; different segments, too, take very different degrees of stain, and this it is which has given rise to the idea that the microbe is a micrococcus arranged in lines or chains. A number of experiments were made on the eyes of animals, with the result that in two cases an affection was produced which bore considerable resemblance to granular ophthalmia.

INTERNATIONAL CONSUMPTION OF MEAT.

MR. H. H. HAYTER, the Government Statist of Victoria, has recently published an interesting report containing much statistical information concerning the flocks and herds of our Australasian colonies and the consumption of meat in different countries. Although the trustworthiness of such statistics cannot be accepted as beyond suspicion, unless their precise source and method of collection be described, yet there is probably no sufficient reason to doubt their approximate accuracy for comparative purposes. It is stated that the average consumption of meat in Australia by each inhabitant is equal to 276 lb. per annum—that is, to more than three-quarters of a pound of meat per day by each man, woman, and child. Such a statement suggests the question, Can this be a fact? but we are told that we need not hesitate to accept the statement, since it is well known by Australian housekeepers that even domestic servants insist upon their right to be provided with meat *ad libitum* three times a day. The nearest approach to this phenomenal consumption of meat in Australia occurs in the United States, where the consumption of meat per head averages 120lb. per annum. Among European countries the amount consumed ranges from 105lb. in Great Britain to 48lb. in Russia. As the export trade in preserved meat of different kinds does not interpose the same difficulty in the way of European statistics as is the case with Australian statistics on this subject, the above-mentioned figures may fairly represent the extreme of meat consumption in the various European countries, and thus afford a trustworthy measure of the material well-being of the working classes in the different countries. The consumption of meat in European countries is probably a better measure of the spending power afforded by the wages of the various nationalities than of the carnivorous inclinations of the different nations. If it be true that the consumption of meat in Australia is, in proportion to population, nearly three times that in the United States, the inquiry is naturally suggested whether the effect of this enormous consumption of meat affects in any degree the Australian mortality statistics.

HEALTH ADMINISTRATION AT PLYMOUTH.

A MOTION has been submitted to and adopted by the Town Council of Plymouth which may have an important influence on the future health of the borough. It is that opportunity be taken of the resignation of the medical officer of health for the port to secure for the borough and the port together the entire services of a medical officer of health not engaged in practice. The size and general character of these combined sanitary districts alone suffice to show that such undivided services are required; but when, as shown at the meeting of the Council in question, it is remembered that Plymouth is one of the few large English boroughs in which but little diminution of the general death-rate is taking place, and that it is a town where aggregation of people and houses on area is such as to call for very special measures to prevent the obvious evils of this unwholesome overcrowding, an exceptional case is made out for change in the direction indicated. Besides which, we imagine that it will not be contended that Plymouth is a borough which has as yet taken a foremost place in modern sanitary administration. In assenting to a motion to consider the expediency of the change indicated, opportunity was taken to point out that the present medical officer of health had done the best that was practicable under the existing arrangements, and a hope was expressed that he might see his way to accept the new office if it should be decided to appoint a health officer who should devote his whole time to his duties.

CONDITION OF THE KIDNEYS IN POISONING BY MERCURY.

SOME experiments that may prove of interest from a medico-legal as well as from a clinical point of view have been made by a German observer, F. Klemperer, and an abstract of his results is given in the *Centralblatt für Klinische Medicin*, 1890, No. 29. The investigations were made to ascertain the condition of the kidneys in death from poisoning by mercury. The experiments were mostly made on rabbits, and the poison (corrosive sublimate) was introduced into the system by means of hypodermic injections. The mercury was eliminated by the intestines and kidneys. In acute cases, when the amount of mercury was large and death rapid, a considerable amount of congestion was found in the kidneys. If life was prolonged five to ten

hours, hæmorrhages were found in these organs, chiefly in the parenchyma, and there was also cloudy swelling of the epithelium. If the duration of life was still longer, the parenchyma showed marked signs of inflammation. These were seen to some extent in the tubules of the cortex, but were less obvious there than in the straight tubules; in the latter inflammation quickly led to necrosis. In half the cases there was a deposition of chalk, together with a degenerative parenchymatous inflammation; the former appeared from eighteen to twenty-four hours after death, at first in the casts found in the diseased tubules, and similar deposits occurred later in the straight tubules. Added to the above conditions was generally a slight affection of the glomeruli. When the poisoning became more chronic, the parenchymatous inflammation was less marked. The necrosis of cells in the straight tubules occurred only to a slight extent, and calcification was absent; but in the interstitial tissues the signs of inflammation were abundant. In the kidneys of dogs poisoned by mercury, there was a parenchymatous nephritis, which terminated not in necrosis, but by fatty degeneration of the cells; a deposit of chalk only occurred to a very limited amount. In cases of metallic poisoning the condition of the kidney is very similar in rabbits to that in man, but in the latter fatty degeneration is more common than in the former. The microscopic and macroscopic characters of the kidneys are not so characteristic as to warrant a diagnosis of mercurial poisoning; poisoning by manganese, glycerine, bismuth, all produce much the same appearances, but the deposits of chalk in the inflamed tissues would suggest that mercury was the irritant employed. Prof. Kauffmann ascribed all the changes produced by mercury to coagulation in the capillaries, producing indirect anæmia, in the wake of which necrosis and calcification followed. Klemperer, on the other hand, was of the opinion that there was no simple necrosis and no definite form of inflammation produced by the action of mercury, but he attributed the results to a proneness on the part of the cells of the kidney of the rabbit to undergo calcification, whilst the same irritant produced in the dog a fatty metamorphosis of those cells.

MEDICAL SCIENCE IN THE LAY PRESS.

"SAVE us from our friends!" would probably be the exclamation of Dr. Vaughn of Ann Arbor, Michigan, when he took up his daily paper about the middle of last month. Dr. Vaughn's work in connexion with ice-cream poisoning and tyrotoxicon, and his *brochure* on animal poisons, are both so well known that an inflated newspaper paragraph can scarcely do him much harm; but the system of lay press eulogy and advertisement that has grown up under the fostering care of those whose knowledge is somewhat limited, but whose desire for public recognition is in an inverse ratio, would not protect from the derision of right-thinking men many so-called scientists. Dr. Vaughn has probably published, or there will be published through some other channel than the lay press, the results of his work on cholera infantum and typhoid fever. He has followed up the work of Hankin, Brieger, and Fraenkel, Roux and Yersin, and others, and he has added another to the list of tox-albumoses. The work that he has done is probably both thorough and sound, and we shall anxiously await the arrival of the record of such work in this country. It seems rather hard in his case that his fellow countrymen should in their hysterical excitement so magnify the work that they speak of Dr. Vaughn as a rival to Jenner. That the work is "a triumph to the States" will be fully admitted, more, however, from the fact that it adds another to the many proofs of the existence of a number—a number that is rapidly increasing—of highly educated, thoughtful, and skilful scientific medical men in a country where, not many years ago, the standard of medical education could not be said to be very high, and where, even at the present, it is lower among the general practitioners than in any civilised country. America is the home of short curricula, and the happy hunting ground of the various "pathists" and quacks, but that there is an ardent desire for better things the very fact that such an article (ludicrous though it is in many respects) as that before us could be written, and could be acceptable to the readers of the *Ann Arbor Argus* of July 15th, 1890, and the *Philadelphia Record* of an earlier date, is evidence. We have got beyond the extravagant stage in this country, but it would be well if many of the so-called medical articles that appear in our lay papers were suppressed.

A SANITARY UTOPIA!

NOT many districts are so highly favoured as an American hamlet, whose reputation as a health resort is said to have been lauded in terms of mingled satisfaction and regret by the local sanitary officer. A report which must be unique thus describes the "distressingly healthy" state of Clare village. No sickness of note has for two or three years required the aid of its few and rusty practitioners. A little measles has merely sufficed to maintain the quasi-professional credit of certain old women. Doctors have gone holiday-making, jury-serving, or loafing. The undertaker cannot live, but must let live. The health officer himself, though no doubt the saviour of this happy spot, is in beggary. He ventures a hope, however, that the green tree, out of which come dysentery, cholera, and their like, may still yield such fruit as will find him occupation. Indeed, so painfully perfect is everything connected with his sphere of labour that, but for the strong flavour of American humour which pervades his message, we might almost believe that at least in one blest corner of the earth the sanitary millennium had begun to dawn.

THE HALIFAX PROPOSED NEW INFIRMARY.

THE committee of the Halifax Infirmary have recently decided upon plans submitted in a limited competition for a new hospital, to be erected in Free School-lane, Halifax. This question was briefly referred to in our issue of Aug. 2nd, since which time we have had an opportunity of inspecting the plans of the proposed hospital. Great care had evidently been bestowed upon the preparation of instructions to competitors; and, in order to ensure complete fairness in the selection of plans, the committee secured the services of Mr. Alfred Waterhouse, R.A., President of the Royal Institute of British Architects, to act as assessor. It seems unfortunate that in so important a matter, in which medical considerations are involved to an extent, at least, as great as architectural ones, the duty of selecting the best plan of a hospital should have been imposed upon an architect alone. Mr. Waterhouse's position in his profession is such as will at once remove any doubt as to his fitness for the post of assessor in such a competition so far as architectural matters are concerned, but there are many and important questions concerning the detailed arrangements of a hospital which only those who have had to work in them in the pursuit and practice of the profession of the healing art can thoroughly appreciate and acquaint themselves with, and which, moreover, did not in all cases find place in the otherwise very complete set of instructions to competitors. In such competitions there would undoubtedly be advantage if the architectural assessor had associated with him a medical colleague specially skilled in hospital requirements and arrangements. Had the respective merits of the several plans been considered upon their medical aspects, it is probable that more importance

might have been assigned to such matters as the provision of greater facilities for open-air treatment of patients in balconies, and for the more complete separation of the waterclosets, slop sink closets, and urinals from the wards and "sun-rooms," by means of the cross-ventilated lobbies usually provided in our modern English hospitals, than appears to have been given in the case of the adopted plans. The great height (18 ft.) of the general wards, and the distance between the level of the head of the windows and the top of the wards, are points that appear to need consideration; and so, too, is the position of the operating room, situated as it is in the midst of the administrative block, surrounded by a large number of rooms and offices, an arrangement which it would have been well to avoid.

JECKS' MEMORIAL FUND.

A GENERAL meeting of the staff and students was held in the Botanical Theatre, University College (Professor J. Eric Erichsen, F.R.S., President of the College, in the chair), on June 16th, to take steps to establish a memorial to the late Dr. Cyril Jecks, who, as our readers are aware, died of diphtheria contracted in the discharge of his duties as resident medical officer of the hospital. Resolutions were carried, to the effect that it is desirable that a memorial be established to the memory of the late Dr. Cyril Jecks; and that the following gentlemen be requested to act as an executive committee to promote that object:—Dr. G. V. Poore, Mr. Bilton Pollard, Dr. J. Rose Bradford, Mr. H. P. Dean, Mr. W. W. H. Tate, Mr. E. B. Allen. At a subsequent meeting of the committee, Dr. Bradford was appointed honorary secretary and treasurer. It is desired that the memorial should take some permanently useful form (possibly the endowment of a bed), which would be of lasting benefit to the hospital in which Dr. Jecks worked so ably. The sum of £100 has already been promised by the hospital staff and some fellow-students. Subscriptions in aid of the above Fund should be sent to Dr. Bradford, University College, Gower-street, W.C.

DIARRHŒAL MORTALITY IN OUR LARGE TOWNS.

THE frequent alarms of fatal cholera occurring at the outposts of sanitary civilisation invest with special interest the recent statistics of diarrhœal mortality in the largest English urban populations. The moderate summer temperature of July and August, accompanied by intermittent heavy rainfall, has been on the whole favourable from the point of view of health. The Registrar-General's last issued weekly return shows that the annual death-rate among the population of nearly ten millions estimated to be living in twenty-eight of the largest English towns during the first seven weeks of the current quarter, ending on the 16th inst., was equal to 18·6 per 1000, and was 2·0 below the mean rate in the corresponding periods of the ten years 1880–89. The statistics of diarrhœa mortality for recent weeks also compare favourably with those for corresponding periods in recent years. During the seven weeks ending on Saturday last the number of deaths referred to diarrhœa in the twenty-eight large towns was 2096, the average number returned in the same towns in the corresponding periods of the last five years 1885–89 being 3441. It is noteworthy that during the first six weeks of this quarter the deaths from diarrhœa compared still more favourably with the average, whereas they showed a sharp rise in the second week of August. This increase was relatively much larger in the provincial towns than in London. The diarrhœa deaths in the twenty-eight towns last week exceeded by more than 200 the highest number returned in any week of the cold and wet summer of 1888, while they were only 71 below the highest weekly number last year, although more than 300 below the most fatal week in 1887, when hot summer weather prevailed. The annual death-rate from diarrhœa last week was 3·1 in London and 3·7 in the twenty-seven provincial towns, among which the highest rates were 4·5 in Cardiff, 4·7 in Leicester, 5·0 in Sunderland, 5·5 in Norwich, and 19·3 in Preston. The exceptionally high rate in Preston calls for special comment, being nearly four times as high in the week under notice as in any other of the large English towns. The deaths referred to diarrhœa in Preston, which had averaged but 3 in the first four weeks of this quarter, rose in the following three weeks to 10, 15, and 39 respectively. It may further be noted that of 86 deaths from all causes registered in this town in the week ending the 16th inst., 39 were referred to diarrhœa, and no fewer than 49 were of infants aged under one year. Preston is one of the few large English towns that always suffers most severely from this annual scourge of infantile summer diarrhœa, but the statistics of this town do not show many instances of so sudden and so severe an outbreak of this disease, which is the more remarkable because the diarrhœa rate in the other large towns was during the week considerably below the average. Some statistics of the relative mortality from diarrhœa among insured and uninsured infants would just now be specially interesting.

AN INTERNATIONAL SANITARY COMMISSION.

SIGNOR CRISPI, the Italian Premier, has just caused to be distributed to the representatives of Italy at foreign Courts a lengthy circular, in which he sets forth a project for the convening of an International Commission with a view to institute a sanitary service for the Red Sea. The urgent necessity for some organisation of the kind will not be ignored in these days when the cholera shadow is upon us and the periodical assemblage of the Mahomedan world at Mecca and its breaking up and home return through so many Red Sea ports is recognised as one of the most potent factors in the propagation of the disease. It is proposed by Signor Crispi to establish two international sanitary offices, for the medical visitation of ships which enter the Red Sea from the Indian Ocean and of ships which pass from the Red Sea into the Mediterranean. Another proposal in his circular is to the effect that in connexion with each of the two offices should be instituted an international sanitary station, where the ships must put in for disinfection when found to have cases of infective disease, actual or suspected, on board.

SUNSTROKE AND ITS PREVENTION.

NOTWITHSTANDING that during the summer now closing the heat and brilliancy of the sun's rays have been much qualified by cool winds, wet, and cloud, several cases of sunstroke have occurred to remind us of this annual danger. The theory of insolation is somewhat difficult to define exactly, but we have, nevertheless, enough of data bearing on the subject to guide us in the adoption of preventive measures. It may well be that, as contended by Surgeon-Major Alcock among others, the sun's light, by impinging on the numberless tactile nerve endings in the skin, has a certain obscure but collectively irritating property which should not be overlooked. On this hypothesis the protective influence of the dark negro skin is easily understood. On the whole, however, the effect of solar influence is probably most correctly attributed to the action of oppressive heat, whether in the shade or sunshine, on tissues which from various causes are ill prepared to resist it. Among such causes are to be numbered the presence of a stagnant atmosphere, excess in diet, as tending to retard tissue changes, pulmonary oppression by clothing with consequent mal-aeration, great physical exhaustion with

cardiac fatigue, and the consumption, even in moderate amount, of alcoholic liquors during hot weather. By the avoidance or removal of any of these conditions an important step will have been taken in the direction of rational preventive treatment. The habitual wearing of somewhat loose porous clothing, by encouraging perspiration and assisting the removal of its products, will also contribute materially towards the reduction of the general temperature. In respect of more strictly local measures, it is needful to keep in view the extreme sensitiveness of the cerebro-spinal nerve centres, especially those of the medulla. The obvious necessity for protection of these centres and the means by which this can best be accomplished call for a brief notice. Among these may be mentioned the adoption of the familiar white veil behind and over the head, the interposition of a wet white linen cloth between head and hat, the effectual ventilation of the latter, and lastly, in the case of persons much exposed to solar heat, the application of such a spinal pad as was worn with marked advantage by our soldiers in the last Nile expedition.

SURGEON PARKE AND THE ARMY MEDICAL SERVICE.

WE have often called attention to the want of recognition on the part of the military authorities of any services, however meritorious, rendered by army medical officers unless with troops in the field. But we do not know of any more striking instance than that of Mr. Parke, the companion of Mr. Stanley, who has borne ample testimony to the very valuable services rendered by his medical colleague during that remarkable expedition. We trust that Mr. Stanhope may now find time to give this matter official consideration. Of late much has been said of the neglect shown to army medical officers and of the stinted manner in which rewards have been bestowed on them. It is possible that under the present arrangement the recommendation for some acknowledgment of such services as those rendered by Mr. Parke should emanate from the Horse Guards; but, as this has not been done, Mr. Stanhope, as the responsible head of the military service, should at once take steps to remedy so unfortunate an omission. As we announced last week, Mr. Parke has been attached to the 2nd Life Guards for duty. This may be taken as evidence of the estimation in which he is held by the Director-General of the Medical Staff, but it can in no sense be deemed a reward for his services, as under the terms of the Royal Warrant this is no longer held as a permanent regimental appointment, but continues only till the officer so attached comes to the top of the roster for foreign service. We know of no good reason why Mr. Parke should not at once be promoted to the rank of surgeon-major; but if there is, surely Mr. Stanhope need have no difficulty in finding out some suitable mode of acknowledging and rewarding services of so unusual a nature as those rendered by Mr. Parke. There need be no fear of establishing a precedent by such a course.

POISONOUS PICKLES.

IT is characteristic of an advancing civilisation that it multiplies the conveniences and the luxuries of life in a positively dangerous degree. Disease and personal gratification often march abreast, and the wisdom and self-control of individuals are in nothing more plainly seen than in their ability to enjoy wisely the one without fear of the other. Probably that scourge of the season, diarrhœa, illustrates the truth of these remarks more forcibly than any other known malady. Almost every indiscretion in diet adds to its possible causes, and the number of such increases daily, thanks to human frailty, to increasing opportunity, and to the careless or wilful prevalence of trade adulterations. Under this latter head we may perhaps most fittingly discuss a recent case of death attributed by a coroner's jury to the action of pickles which had been eaten a short time previously. There was here an evident connexion between the alleged cause and its effect, but some further explanation is certainly desirable. Notwithstanding the naturally stimulant property of these condiments, this is to our mind insufficient in itself to account for fatal choleraic diarrhœa. The facts of the case are much more suggestive of the introduction of some irritant poison. The vinegar of pickles has frequently been found to contain metallic impurities, notably copper, derived from the vessels used in their manufacture. Corrosive sublimate and other irritants have also been detected, and the presence of some such mischievous addition should probably be blamed in this case for the fatal issue.

THE SANITARY STATE OF WOKING.

WE are glad to learn that it has at last been decided to provide the neighbourhood about Woking Station in Surrey with a system of sewers. Some piecemeal work as to road-making was at first proposed, but sanction to constitute a special district for this purpose was refused by the Local Government Board on the very reasonable ground that a rapidly increasing cesspool district such as Woking Station would probably be very soon compelled to pull the newly made roads up in order to provide a system of sewerage. The inhabitants of the locality in question have in consequence appealed to the rural sanitary authority of Guildford to make application for the formation of a special drainage district, and it will now be necessary to seek engineering advice in order to determine what area should be included in the scheme of sewerage to be provided.

ANTHROPOLOGY IN GERMANY.

THE Congress just held at Münster affords ample proof of the progress Germany is making in anthropological research. Two hundred members were present, and, as usual, Professor Virchow was the most conspicuous and the most honoured of the number. The President (Professor Waldeyer), in opening the proceedings, reviewed the history of the German Anthropological Society since its origin at Innsbruck in 1869, and among its achievements signalised the splendid prehistoric map and the catalogue of prehistoric treasure-trove now approaching completion. At Virchow's instance, comprehensive researches have been made on the racial characteristics of Germany, and from the colour of the hair, the skin, and the eyes, it has been ascertained that a blonde and a brown Germanic people dwell side by side in a sort of interlinear fashion. A very interesting memoir on the anthropological features of Westphalia as they emerge from prehistoric investigation, was followed by Virchow's short addresses on the occurrence of bronze ornaments in the Caucasus, on the application of antimony as a cosmetic, on Von Schliemann's excavations, and on the cradle of the peoples in Interior Asia. An elaborate paper by Waldeyer came next, on the perennially interesting theme of the antiquity of mankind, including the points of resemblance between it and the higher grades of animals, as well as the importance of climatic influence, coupled with that of civilisation, on the human skull-formation. The last day's sitting was a very animated one, mainly on account of the discussion evoked by a paper giving anthropometrical results based on the measurement of 2100 English students. The growth of the bodily power, it seems, proceeds steadily up to the twenty-fourth year, after which it begins, at first almost imperceptibly, to decline. This limit, however, can by no means be assigned to the intellectual powers, which

go on increasing till a much later life-period. Another paper of peculiar interest to army surgeons was read by General-Secretary Ranke on the corporeal measurements of the Bavarian recruits and the physical deductions to be drawn from these. The final contribution, that of Dr. Finke, on the "History of Westphalia, from the Earliest Times up to the Introduction of Christianity," was in some respects the most elaborate and striking of all, though the interest appeared at first to be of a purely local character. It was the work of a most accomplished anthropologist, and showed among its rich antiquarian, sociological, and artistic details what a field of important and stimulating knowledge lies in the immediate neighbourhood of every true man of science. The customary banquets and excursions varied the work of the Congress most agreeably, and Virchow, in a genial toast at one of the former, proclaimed that in the interests of science the Münster Academy should be promoted into a fully equipped University. One most significant and gratifying feature of the gathering was the large number of medical men who took part in the proceedings.

VALUE OF THE DIAZO REACTION.

DR. L. RÜTIMEYER, who has made between two and three thousand trials of the so-called diazo reaction of urine from 260 patients, declares his belief that it is a very useful guide both in diagnosis and prognosis, being especially valuable in phthisis and typhoid fever. In phthisis he regards it as denoting absorption of caseous matter, and when it is persistent as implying rapid mischief and an early and fatal termination. In cases of general miliary tuberculosis it was always obtained. The number of typhoid cases which were examined was 1130, of which 87 were fatal. The presence of the reaction is very constant, and it can generally be obtained early. It does not seem to be present in pyrexial intestinal catarrh. If the reaction is not obtained during the first or second week the case, if one of typhoid at all, must be a very slight one. It cannot, however, be affirmed that a well-marked and constant diazo reaction is any sign of a fatal termination, as with phthisis. The reaction is never given by the urine of healthy persons, and was not observed in hysteria, myelitis, hepatitis, diabetes, cystitis, pyelonephritis, benign ovarian cysts, cholelithiasis with jaundice, gastro-abdominal catarrh with fever, or in a number of surgical diseases. It was occasionally present in cancer of the stomach and œsophagus, chronic nephritis, caries of bone, cold abscesses, pyæmia, scarlatina, pleurisy with serous effusion, tubercular meningitis, and heart diseases. It was more frequently obtained in croupous pneumonia, actinomycosis of the lung, and malignant diseases of the peritoneum. The method of testing is very simple, two special solutions only being required, a concentrated solution of sulphanilic acid in water and a solution of nitrite of sodium of the strength of 1 in 200. The actual test solution is prepared immediately before use by mixing 200 parts of the sulphanilic acid solution with 10 of pure hydrochloric acid and 6 of the nitrite of sodium solution. This mixture is added to an equal volume of the urine, and sufficient ammonia added to render the whole alkaline. A bright or carmine red colouration denotes the diazo reaction. After from twelve to thirty-six hours a deposit occurs, the upper part of which is green or black.

FOREIGN CHOLERA INTELLIGENCE.

CHOLERA is still maintained in Spain, and in the week ending Aug. 16th there were 344 fresh cases and 190 deaths, bringing the total since the beginning of the epidemic up to 1882 cases and 952 deaths. The disease in its epidemic form is still mainly confined to the provinces of Valencia and Alicante, the attacks in Badajoz and Toledo tending to diminish. But at Arges in Toledo, 160 cases and 92 deaths had occurred, and there had been a general flight of the population from the place. The disease has also appeared at Tortosa in the province of Tarragona. A few cases have occurred in one of the Government prisons—namely, that at San Miguel, and at least two deaths of persons arriving at the capital from the provinces have taken place at Madrid. On the whole the outlook as regards Spain is by no means reassuring. With respect to Arabia, it is difficult to give any accurate statistical account of the progress of the epidemic, and this mainly because of the scattering of the pilgrims which is taking place. At Jeddah and Mecca the mortality is said to be decreasing, the deaths at the former place averaging last week some 25 a day, and those at the latter some 35 to 40. One Ottoman steamer with over 1000 pilgrims from Jeddah arrived at Tor on the 11th inst., there having been 17 deaths from so-called diarrhœa on board. Since then 48 cholera deaths have taken place in the encampment. People are alleged to have evaded the quarantine arrangements sufficiently to reach Boulak and Cairo, where cases of cholera were reported; but later information ascribed the attacks to ordinary sporadic choleraic diarrhœa. In view of all these circumstances it is disquieting to read of the dispute which is going on at the Alexandria Quarantine Board as to a suitable spot for quarantining pilgrims leaving El Tor, and who a few days ago numbered some 15,000. In the end the Turkish and Austrian delegates, with Admiral Blomfield, were ordered to cruise in the Red Sea and make a suitable selection of a site. In the meantime quarantine restrictions are increasing, and France, having apparently in view the defective sanitary state of Toulon, has ordered that vessels arriving from Indo-China and touching at Aden or other ports in Arabia shall undergo either quarantine or medical observation—whatever the difference may be—at either Toulon or Algiers. Rumours were current during the week to the effect that cholera prevailed at Nicolaieff, not far from the north coast of the Black Sea. Later information received from the British Embassy at Constantinople failed to confirm this; but a telegram dated the 20th inst. reaffirms it, and adds that the disease has appeared at Tchelchlen near Kishineff.

THE GHENT RESIDENT MEDICAL OFFICERS.

THE resident medical officers and junior assistants of the Ghent hospitals, who recently resigned in a body, have returned to their posts, having gained what they required, which was the recognition of their responsibility to the senior medical staff alone. The time during which the posts were vacant was eighteen days, as the senior medical staff and the whole body of students entirely sympathised with the residents. The result could hardly be doubtful, and was simply a question of time. According to the regulations now proposed, the whole medical service in each hospital will be under the control of the director and two members of the senior staff.

BACTERIOLOGY IN THE SISTER ISLE.

THAT there is an increased interest taken in the study of bacteriology in the British isles we have ample evidence in a little pamphlet now before us.[1] It appears that the Archbishop of Dublin, at the suggestion of Dr. M'Weeney, has devoted a portion of a special fund which he held in trust for the benefit of the Catholic University to the fitting up of a bacteriological department in the Catholic University

[1] Address on Bacteriology. Delivered at the Mater Misericordiæ Hospital, May 23rd, 1890, by Edmond J. M'Weeney, M.A., M.B., M.Ch., M.A.O.; together with a Report of the Proceedings on the occasion of the Inauguration of the Bacteriological Laboratory at the above Institution. Dublin: Fannin and Co., 1890.

Faculty of Medicine, and has thus enabled the Medical Faculty of that University to boast that it is the first in Ireland to bring itself, so far, abreast of modern scientific requirements. The address itself, delivered on the occasion of the opening of the new laboratory, consists of a brief *résumé* of the history of the development of bacteriology and a short account of some of the better known forms of bacteria, together with a sketch of the laboratory and its fittings and of the proposed scheme of work in the department. Dr. M'Weeney and his colleagues are evidently determined that no effort shall be spared to keep their school well to the front, not only in regard to facilities for teaching, but also as to opportunities that it can offer to its alumni for continuing their studies after graduation, and for carrying on original work. We wish them every success in their efforts.

BROMIDE OF ETHYL AS AN ANÆSTHETIC.

DR. THOMAS FRANK of Torontal-Szégcsány, in Hungary, has employed, it is stated, with great success the inhalation of bromide of ethyl for anæsthesia during operations on the mouth. In one case the patient, though he felt no pain during the removal of a sarcomatous epulis, did not entirely lose consciousness, as he spat some blood when requested to do so, and when at the commencement the breathing stopped, he resumed it in reply to directions.

FOREIGN UNIVERSITY INTELLIGENCE.

Königsberg.—Professor Braun of Jena has been offered the chair of Surgery.

Leyden.—Dr. Eykman, formerly Professor in the Medical Faculty of the University of Tokio, Japan, has been appointed to the chair of Pharmacy and Toxicology, in place of Dr. van der Burg, deceased; Dr. Huet, Professor of Clinical Medicine, has resigned his chair.

Marburg.—Dr. Uhthoff has been appointed to the Professorship of Ophthalmology, vacated by Professor Schmidt-Rimpler.

Nancy.—Dr. Beaunis, Professor of Physiology, has been granted leave of absence for next session on account of his health. The lectures will in his absence be given by M. René.

Naples.—Dr. d'Evant has been recognised as *Privat-docent* in Anatomy.

Paris.—Dr. Tillaux has been appointed Professor of Operative Medicine, and Dr. le Dentu Professor of Clinical Surgery; Dr. Lion has been appointed *Chef des Travaux* of Pathological Anatomy in the Clinical Laboratory of the Hospital Necker.

Rome.—Dr. G. Bonanno has been recognised as *Privat-docent* in Special Pathology and Clinical Surgery.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Professor Pincus of Königsberg.—Dr. Barth Ritter von Barthenau, Professor of Chemistry in the University of Vienna.

IN their report to General Scott for July, Messrs. Crookes, Odling, and Tidy state that during the first three weeks of the month the condition of the London water-supply continued to be satisfactory, but during the last ten days of July there was manifested an appreciable deterioration, particularly in respect of degree of colour-tint upon examination in bulk, as a result of the heavy rainfall of the 17th and 18th of that month. This deterioration was noticeable more or less in the supply of all the seven companies, but more especially in the case of four out of the five companies taking their supply from the Thames.

THE Leicester County Council has made a strong representation to the corporations of Leicester and Loughborough, urging them to provide a fresh outfall for their sewage, in consequence of the fouling thereby of the river Soar.

IT is rumoured that at the beginning of the next session of Parliament a Bill will be brought in for the purpose of restricting hypnotic performances in public.

Pharmacology and Therapeutics.

HYOSCINE.

DR. K. PAVLOFF has studied the pharmacology of chloride of hyoscine, his results agreeing in the main with those of Sohrt and other observers. Some differences, however, are worthy of note. Sohrt found that there was acceleration of the heart in consequence of depression of all the cardiac inhibitory apparatus, and did not observe any change in the blood-pressure. He therefore thought there was no effect on the vaso-motor centre, and this view was supported by Wood. Pavloff, however, finds that at first there is a slowing of the heart in consequence of stimulation of the inhibitory apparatus. In rare cases this effect was produced by exceedingly small doses—0·00005 gramme per kilogramme of body weight. Afterwards the more marked acceleration produced by depression or paralysis of the peripheral inhibitory apparatus comes on; this last is antagonistic to eserine. The blood-pressure was always increased for a longer or shorter time, falling then to normal or even below it. This rise of blood-pressure was due to stimulation of the whole vaso-motor apparatus, and especially to that of the centres in the brain and cord; the subsequent fall is ascribed by the author to weakened muscular force of the heart. According to Sohrt no effect is produced on the respiration. Pavloff, however, found that it was somewhat retarded in consequence of a depressing action on the respiratory centre. He also found that electrical irritability of the cortex of the brain was lowered, though Sohrt was unable to detect any effect of the kind. Pavloff found that with regard to the salivary secretion hyoscine is antagonistic to pilocarpine, that it has no action on the temperature or on the reaction of the blood, that it diminishes the irritability of the brain, and, to a small extent, the perception of pain, but that it does not affect the tactile sensibility. It rapidly and strongly dilates the pupils, the effect lasting for a long time, and being due to stimulation of the sympathetic. On the whole its action is very similar to that of atropine, the chief difference being the lowering effect of hyoscine on the irritability of the cortex of the brain. A *résumé* of the literature of hyoscine is given in the form of an analysis of sixty-three articles from various sources, several of them English and American.

STROPHANIN.

Strophanthus now holds a recognised and valuable place amongst the remedies used in the treatment of cardiac complaints, being perhaps only secondary to digitalis. An interesting article was read at the Medical Congress held in Vienna in April last, by Rothziegel, on the active principle of strophanthus—namely, strophanin. An abstract of the paper is published in the *Centralblatt für Klinische Medicin*, 1890, No. 27. The doses given were 0·0002 to 0·0003 gramme, amounting to 1½ to 5 milligrammes per diem. In English measure this would amount to about $\frac{1}{300}$th to $\frac{1}{100}$th of a grain for a dose. It is best given in capsules, and repeated every two hours. Rothziegel sums up his results thus: 1. The circulation was in most cases greatly improved, the pulse became stronger and more regular, a difference being sometimes noticed in from five to ten minutes after the first administration of the drug, but the full effect upon the pulse was not attained until the second or third day of its use. The improvement occurred later than with digitalis, but if the strophanin were continued, its beneficial effects were more lasting, and persisted for some time after the drug had been discontinued. 2. The dyspnœa, palpitation, and other symptoms occurring in organic disease of the heart were much relieved whilst the patient was taking this drug.

As a rule, the dyspnœa disappeared before the palpitation. In cases of so-called "nervous palpitation," strophanin produced some relief, but this was only temporary. 3. The amount of urine secreted was increased, but not until the strophanin had been taken for some considerable period, and, moreover, the quantity passed was not so large as when digitalis or the tincture of strophanthus had been given. The increase in quantity of urine lasted for several days after the strophanin had been discontinued, and was apparently due to increased blood-pressure, and not to any direct action on the kidney. No sign of kidney irritation was noticed at any time. 4. Gastric disturbances, even after prolonged use of the drug, were very rare, and even when such phenomena did appear strophanin could be taken in capsules without any discomfort. As a general rule the appetite was increased. The condition of the stools was not altered. There was no diaphoretic action. 5. The nervous system was only influenced indirectly, and that favourably, owing to the improved strength and regularity of the heart's action. 6. An accumulative action was not noticed in the case of strophanin, and the drug may be continued for weeks without any ill effects. 7. Subcutaneous injections ($\frac{1}{10}$th gr. in watery solution), in cases where the heart's action was very weak, produced a rapid and lasting effect on the pulse, and no unpleasant local effects were caused by the puncture. 8. With the tincture of strophanthus, strophanin compared unfavourably. The tincture acted more certainly, quickly, and energetically than the alkaloid; this was especially noticed in its diuretic action. Cases, however, occasionally occurred in which not only the tincture of strophanthus and digitalis, but also the other cardiac tonics, could not be taken, but in which strophanin was well borne, and the latter was found to be a good substitute for the tincture in such cases. Other instances were also noted in which all the cardiac tonics were ineffectual, whilst the administration of strophanin was followed by satisfactory results. 9. The indications for the use of strophanin in valvular disease, with or without affection of the myocardium, are the same as in the use of digitalis—that is to say, when there are indications of heart failure. In acute and chronic Bright's disease strophanin produces diuresis, especially if the heart's action is at all weak.

THE INTERNATIONAL MEDICAL CONGRESS IN BERLIN.

THE final statistics of the recent Medical Congress show that the number of members was 5737, that of the other participants 143. Germany (without Berlin) sent 1752 members, Berlin 1166, the United States of America 659, Russia 429, Great Britain and Ireland 358, Austria and Hungary 262, France 179, Italy 146, Denmark 139, Holland 112, Sweden 108, Switzerland 67, Belgium 62, Norway 57, Spain 41, Roumania 32, America (without the United States, Canada, Mexico, Brazil, and Chili) 30, Canada 24, Japan 22, Chili 14, Turkey 12, Brazil 12, Egypt 8, Mexico 7, Australia 7, Portugal 5, Bulgaria 5, Greece 5, Africa (without Egypt and Cape Colony) 5, British India 2, Dutch India 2, China 2, Luxemburg 2, Servia 2, Monaco 1, and Cape Colony 1. Of the other participants 97 were from Germany, 46 from other countries. Five ladies took part as members in the discussions and demonstrations of the Dental Section. Three of them were from St. Petersburg, one from Chicago, and the fifth from Berlin.

On Saturday, the 9th inst., the last day of the Congress, Professor Neugebauer of Warsaw, who had taken a keen interest in its discussions, died here suddenly. He was one of the most eminent Polish physicians of the day. Most of his very numerous writings are contributions to his special department of gynæcology, but several belong to other branches of medical science. One of them is a description of the surgical and gynæcological instruments found in the ruins of Pompeii and Herculaneum. Another of his writings, entitled "De Calore Plantarum," was a valuable contribution to the physiology of plants.

Electric Endosmosis.—The report on Edison's experiments in the domain of electric therapeutics, to which Dr. Lassar alluded in the opening meeting of the Congress, was delivered by Dr. Bayles, Edison's medical representative, in the Dermatological Section. The experiments were made by means of electric endosmosis, and their aim was the cure of gouty concretions. They were based on the fact that the endosmotic exchange of the ingredients of different solutions of salt through an animal membrane is greatly accelerated when an electric stream goes through the fluids and the membrane. To similar previous experiments with lithia salts Edison has added new ones, which not only confirm the fact above stated, but also place its validity for lithia combinations beyond doubt. In illustration he placed one hand of a healthy man in a solution of chlorinated lithia, the other in one of chlorinated soda, and dipped the negative pole of a battery into a solution of common salt, and the positive pole into one of lithia. The stream had a strength of 4 milliampères; the treatment lasted two hours daily—eleven hours in all. Spectroscopic examination of the urine showed that considerable quantities of lithia had passed into the man's body. Edison then undertook the treatment of a man of seventy-three, who had contracted gout by sleeping in a damp bed. His joints, except the knees, were severely swollen with calcareous concretions. A certain degree of nervous congestion appeared in his face, and for months past he had suffered incessant pain in various parts of his body, evidently caused by the pressure of the gouty deposits on the nerves. The finger-joints especially were filled with concretions; the left little finger measured 8·6 centimetres in circumference; the right hand was still worse. The gait was difficult and painful; the mental powers unimpaired. Edison used a stream of 120 volts and 5000 ohms, and solutions of chlorinated lithia of 1·08 per cent. and common salt. A current of 20 milliampères, which was borne by the patient without inconvenience, was used four hours daily for six days. The pain ceased on the first day. At the end of the six days the circumference of the left little finger was only 8·2 centimetres. In the following week the process was continued for two days, and the circumference of the finger diminished to 8 centimetres. It was calculated that the total diminution of the circumference, 0·6 centimetre, indicated the removal of 3 cubic centimetres of concretion. The further treatment had to be given up, as the man would not come to the laboratory any longer owing to the long distance; but the case seems to prove the applicability of electric endosmosis to some forms of gout.

Premature Labour.—In the Section of Gynæcology and Obstetrics the discussion on the Indications and Methods for producing Premature Labour was opened by Dr. Parvin (Philadelphia) in an eloquent address, in which he briefly referred to the fact that out of some thousand cases nearly seven-eighths required premature labour for deformities of the pelvis, and these cases must be decided on the degree of deformity. He then recounted the various diseases in which it might be required for the sake of the mother, such as albuminuria, in which he considered it but seldom necessary, even in cases that went on to eclampsia, quoting Gooch's well-known aphorism; in cardiac diseases also he employed it but exceptionally, but frequently had recourse to it in pneumonous disease, where it gave satisfactory results, more especially in acute lung affections, where dyspnœa was a prominent symptom. In obstinate vomiting as well as in chorea it might occasionally be required, but only after all other means had failed. For the sake of the child it became necessary in cerebral apoplexy and in some cases of cholera.—Professor Macan (Dublin) discussed the ethical side of the question in pelvic narrowing, and dwelt fully on what he called the "proportionate value" of the mother's and child's life. He stated that in Ireland and other Catholic countries the question was to some extent affected by the religious aspect, but that notwithstanding the great improvements in the Cæsarean section and its lessened mortality, the final decision between it and craniotomy rested with the mother. Whatever method was adopted should be carried out with the most rigorous antisepsis.—Dr. Dohrn, while admitting the great improvement in Cæsarean section, contended that there was still a wide field for premature labour in which it was of the greatest benefit.—Dr. Calderini recommended that in the case of a living child premature labour should not be induced when the true conjugate diameter was under seventy-five millimetres.

Abdominal Section.—Drs. Sänger (Leipsic) and Cushing (Boston, U.S.A.) read interesting papers on the advantages

of drainage after abdominal section, and the latter went fully into the size and shape of the tube to be used, and demonstrated what we know in this country as Keith's method of drainage. He was followed by Mr. Lawson Tait, who, in a vigorous speech, declared himself as a heretic as regards aseptic faith, and denied the value of bacteriological cultivation in deciding the point, as the circumstances were totally different, and the results on dead and living tissues should not be compared. He first saw drainage used by Kœberlé of Strasburg many years ago, but it was long after that Keith convinced him of its great advantages. He now employed drainage more than ever, using a large glass tube where the intestines had been torn or the bladder injured, and a small tube where he anticipated oozing. — Dr. Granville Bantock agreed with the last speaker, and drained much more frequently than formerly.

Treatment of Stricture by Linear Electrolysis.—In the Surgery Section, Dr. Fort of Paris read a paper on the Treatment of Stricture by Linear Electrolysis. He has operated on 700 strictures of the urethra without a single fatal result by means of electrolysis. By the employment of the electroleur, an instrument invented by Dr. Fort, the operation when properly done is innocuous, without pain or blood, and no bougie is needed afterwards. He has been the first to apply linear electrolysis in cases of œsophageal obstruction. He related the remarkable case of a young girl having so narrow a constriction that she was unable to swallow anything beyond a few drops of liquid. At the time she was at the point of death. A month afterwards the disease was cured. After fifteen applications of the electroleur she was able to eat all kinds of food and her weight increased 25 lb. during that time. The conclusions of the author are as follows: 1. Linear electrolysis may be used for all kinds of strictures. 2. Owing to the simplicity and harmlessness of this operation, and owing to the greater infrequency of relapses by this than by other methods, the author considers that linear electrolysis should be preferred to urethrotomy and ought to constitute the operation *par excellence* in the treatment of stricture of the urethra. 3. Combined with dilatation linear electrolysis gives excellent results in the treatment of strictures of the œsophagus. It certainly benefits organic strictures, and it cures almost immediately fibrous or cicatricial strictures, provided that a small bougie be used to guide the electroleur.

Treatment of Coxitis.—Dr. Borck, A.M., of St. Louis, Mo., read a paper on this subject. He wished more particularly to discuss the second stage of this disease, because the surgeon very rarely saw those cases in the incipient stage of the malady. When the surgeon was consulted the patient had in the majority of cases already advanced into the stage of serous or synovial effusion, in which the diagnosis could not well be mistaken, and operative interference offered a better chance of the complete recovery of the patient from the attack than any other method. The author found in several cases in the third stage, where suppuration had already taken place within the capsule, that the pain immediately ceased upon the spontaneous rupture of the capsule, though the destructive process continued to progress. He argued, if the effusion could be got rid of completely by some radical means of operating before suppuration had time to begin—i.e., during the period of effusion, when the exudate is yet but serous or synovial, which he regarded as the second stage, though the line of division where the first stage ends and the second stage begins might be difficult to determine—such a course would be attended with better results than to wait for nature to absorb the fluid. He therefore adopted the following method. A small incision was made into the skin over and posterior to the trochanter major, the tissues down to the capsule being separated, and a small knife with a long neck inserted alongside of the director down into the capsule, separating it freely. The fluid then escaped into the surrounding tissue and was absorbed. But very little hæmorrhage occurred. The parts were put in complete fixation with a pair of wire breeches, or similar apparatus, and nature, assisted by hygienic treatment, completed the work, the patient recovering within two or three months. This method of treating the second stage of coxitis was, he stated, adapted to all cases where the disease was caused by an injury such as a blow or fall.

First Help in Railway Accidents.—The results of the discussions in the Section for Railway Hygiene, concerning arrangements for giving first help in railway accidents, were briefly these: 1. All the officials must go through a course of instruction similar to that given in Samaritan societies. 2. Instead of the bandage-boxes which are carried in trains, and which are often destroyed in collisions &c., each official should have a small bandage-bag. 3. Each station must be furnished with a reserve-box, which must be inspected and renewed at stated intervals. 4. Each large station should have a special room for the treatment of the wounded, connected by telephone with the adjacent public health offices, police offices, &c.

THE PARIS MUNICIPALITY AND THE CONTAGIOUS DISEASES ACT.

No. II.

WHETHER, as the President of the Paris Municipal Council contends, women would volunteer to register themselves as prostitutes if they were properly treated, is, as we have already urged, extremely doubtful. One thing, however, is very certain—no woman would voluntarily submit to the treatment now administered. Those who volunteer do so only because they see it is impossible to escape detection and the consequent compulsion. The President, M. Richard—and in this he is supported by the entire Municipal Council—argues that a prostitute should not be treated as a criminal. We might add that if prostitution is a crime, and is to be punished as such, punishment must not be limited to the female sex. The woman has, very generally at least, the excuse of extreme poverty, of the impossibility of earning sufficient to live in anything like comfort. The man has no such excuse. The law, as it is applied in France at present, enforces the punishment of the women as criminals; while not only are the men who consort with them unmolested, but, worse still, the *souteneur*, the "bully," who lives on the prostitution of one or more women, rarely falls within the clutches of the law. It has already been stated that during the year 1888 there were no less than 10,355 arrests made, of which only 557 were for illness. The number of women registered during that same year was 4591. Many women are arrested several times in the course of a year, and these 10,355 women arrested were not all registered women. Dr. A. Fournier gives an eloquent description of what they have to endure. A girl is arrested in the street, accused of soliciting, is taken to the prefecture, and examined. If she is found to be ill, she is at once placed in the prison van, just as if she had committed a murder or a theft. The same happens to the registered prostitute if she is found to be contaminated. At the prison of St. Lazare, female thieves and murderers will be her prison neighbours. In what is called the "second section" of this prison are placed girls arrested and accused of soliciting, but who, though not ill, are put with those who are. Here also are the registered women who are ill and those who are well, but are undergoing punishment for breaking some regulation. Thus, the young girl who is arrested on suspicion of leading an immoral life, who is waiting till her parents or friends reclaim her, is placed in degrading promiscuity with the very worst characters that can be found in the streets of Paris. The girls under twenty-one years old who were not inscribed as prostitutes, but were arrested and imprisoned in the infirmary of St. Lazare from 1883 to 1888, numbered 491, 485, 496, 319, 327, and 224. Those who were in good health and were imprisoned under the accusation of soliciting numbered, during the same years, 219, 277, 120, 85, 50, and 60. These prisoners are submitted to the same discipline as ordinary thieves. They must wear a convict's dress, and must observe absolute silence during the hours of work. They can be punished by being put in a dark cell, fed on bread and water, and may even be put in a strait waistcoat. The food is bad and insufficient: vegetable broth, generally cold, twice a day, two small pieces of boiled beef per week, bread and water. Those who can afford it are allowed to buy a quarter of a litre of wine. The insanitary condition of the dormitories is an old grievance. Even in winter they are never warmed, and the linen indispensable to the cleanliness of women is not allowed. They are given one chemise per week, and, when indisposed, may not send for other

linen. So harsh is this treatment that many women accuse themselves or actually commit some petty theft so as to be sent to the first section of the prison, among thieves and common law offenders, where existence is a little more tolerable. In the infirmary matters are hardly any better. The most repugnant promiscuity prevails. Under such circumstances, the treatment of the patients is difficult and their recovery slow.

Though it is on the pretext of preserving public health that women are subjected to this cruel treatment, the measures taken for the prevention of disease are, in reality, very imperfect. The women inscribed have to present themselves for medical examination only once in a fortnight. This most authorities on the question regard as quite insufficient. Medical experts generally recommend two examinations per week, as at Altona, Frankfort, Ghent, Genoa, Groningen, Hamburg, the Hague, Madrid, Le Mans, Liége, Lille, Milan, Namur, Nantes, Posen, Prague, Rome, and Vienna. Not only are the women examined in Paris but once a fortnight, but this is done in a manner that can scarcely be considered reliable. The staff consists of twenty doctors attached to the 2nd Bureau of the First Division at the Prefecture of Police. The dispensary for examinations is open from 11 A.M. to 4 P.M. The average number of examinations is 216 per day, or forty-five per hour. This, bad in itself, is only the average. The women being free to select their own day for examination, their numbers vary greatly, and on some days the doctor does not devote more than a minute to each woman. It is impossible to condemn too strongly such an organisation. As a natural result, the statistics prove that the greater the number of women examined in any one day the smaller the number of cases where disease is discovered.

The report proposes a series of reforms in this service. Firstly, to create dispensaries for the examination of women in different parts of the town, and these to be as near as possible to the hospital where the women are to be confined if ill. It is suggested that there should be one doctor for every twenty women who are to be examined in the course of an hour. It is impossible, the report maintains, to examine properly more than twenty women in one hour. The temptations to quit the hospital before the cure is complete are very strong. Apart from the dissipated habits of the patient, the love of change and excitement, there is the question of jealousy, the fear of being replaced by others, and, above all, the solicitations of procuresses and the reproaches of the *souteneur*, who finds himself deprived of his daily bread during the woman's absence. In this latter respect it should be remarked that this individual, who, more than the ordinary criminal, renders the streets of Paris dangerous to all pedestrians, would not find the same easy means of existence if women did not seek to evade the law. It is the *souteneur* who comes to claim the woman when she has fallen into the hands of the police, testifies as to her respectability, and offers to be responsible for her good conduct, while, in reality, he is living on the products of her prostitution. But for women to submit to the law it must be more humane in its character and application. Therefore, it is proposed to abolish St. Lazare altogether so far as prostitutes are concerned, and to confine them to special hospitals instead of sending them to prison. The patients, of course, will not be allowed to go out till they are cured, and must follow the medical treatment prescribed. In every other respect they will enjoy the same freedom as ordinary patients in ordinary hospitals. Perhaps in such hospitals, when withdrawn for some time from the evil surroundings of their out-door life, some of them may be pursuaded to take to work again, and may thus be redeemed from the ranks of prostitution. These special hospitals, if we include among their patients the women at Lourcine and St. Louis who, though suffering from venereal disease, falsely pretend not to be prostitutes, would have about 1200 patients in the year. If we take an average of four months' treatment for each patient, this would necessitate 400 beds. These figures apply only to regular prostitutes. Dr. Le Pileur considers that for Paris there should be an aggregate of 1200 beds for venereal disease. Daily complaints are made that at the hospital there is not sufficient room for all the patients who eagerly demand admission.

The question then arises as to how far an ordinary patient suffering from venereal disease should be detained against her will in a hospital. Fear is expressed that if such detention is rigorously enforced, patients will no longer come to the hospital. It is suggested that much depends on the tact of the doctor and on the administration of the hospital, where everything should be done to induce such women to stay. One of the best methods of detaining them till they are perfectly cured is to institute workshops within the hospital where the patients can find remunerative employment. Then it is asked whether prostitutes should be treated in separate lock hospitals or in a special ward of ordinary hospitals. This has brought to light again the very energetic protest made at the French Academy of Medicine as to the insufficient practical knowledge of venereal disease among medical students. Professor Fournier complains that in examinations the candidates are rarely interrogated on syphilis; this order of "special" questions is avoided, it being known that in many hospitals there is but scant opportunity of studying this disease. Consequently disastrous errors are not unfrequently committed in actual practice. Syphilitic children are confided to the care of healthy wet nurses, or *vice versâ*; men allowed to marry when they are not thoroughly cured, with the result that the wife is infected, miscarriages ensue, or syphilitic children are born. If, however, a ward for venereal disease was instituted in the large hospitals, and the treatment under the Contagious Diseases Act of women was utilised for clinical purposes, these defects in medical education could be remedied.

The report further insists on the necessity of supplying every possible facility for the easy and economical treatment of venereal disease among both men and women. For instance, at Lyons there is a dispensary for venereal diseases where in the course of one year 727 patients have been treated gratuitously, and the cost only amounted to £120. An energetic protest is also made against the numerous benefit societies, the large railway companies, and other institutions where provision is made for the treatment of illness among the members or the *employés*, but where advice and medicine are not given when the complaint is of a venereal character.

The last point raised in the report relates to the condition of minors. First, it is clearly established that, from the public health point of view, these are by far the most dangerous class of prostitutes, and their number is very considerable. For the most part they are clandestine prostitutes; still, a certain number are inscribed, such registration being allowed after the age of sixteen. For instance, in Paris there were 265 minors inscribed in 1888, and as many as 409 in 1885. It is among these very young girls that disease is most prevalent. Dr. Maireau gives some instructive figures. Out of 135 prostitutes treated by him for syphilis at the prison of St. Lazare, he found that 13 were contaminated before they became prostitutes; 9 had indurated chancres during the first year, 5 after the first year, 85 suffered from secondary symptoms during the first year, 19 during the second, 9 during the third, 3 during the fourth, 2 the fifth, and 1 each during the sixth and seventh years. From this Dr. Maireau concludes that a prostitute generally contracts syphilis during the first year. Now, out of 172 women, he ascertained that 5 commenced their careers as prostitutes when only thirteen years old; 7 were fourteen years old when they began. The ages of the rest were 11 at fifteen years, 23 at sixteen years, 34 at seventeen years, 29 at eighteen years, 11 at nineteen years, 13 at twenty years; so that, out of 172 women, 133 were minors when they became prostitutes. Dr. Trélat explains the prevalence of disease among minors by the fact that they are not protected by previous inoculation; and because, being under parental control, they escape the action of the law, and are therefore free to contract and propagate syphilis without let or hindrance.

Now it is proposed to apply to minors the law which has already produced such excellent results with respect to youths and children who are characterised as "morally abandoned." These young persons are sent to an educational establishment where they are not punished or treated as prisoners, but where they are taught a useful trade and are carefully educated. Should the young girl under age be suffering from disease, then she would be sent to a special hospital, where she would not mix with prostitutes. Under healthy and moral treatment, a far larger number than is generally supposed of these young girls would be glad to return to the paths of virtue. The cost of these "morally abandoned" young persons should be borne by the departments whence they came, otherwise the burden upon the town of Paris would be too great, as

only 20 per cent. of the prostitutes registered in Paris are born in that town.

Such are the principal points in the very remarkable report drawn up by Dr. Richard, President of the Paris Municipal. It remains to be seen how the proposed reforms were received by the Council and the Prefect of Police, and what will be done to remedy the grave defects exposed.

THE MEDICAL CHARITIES OF EDINBURGH.

As mentioned by our Edinburgh correspondent last week, the *Scotsman* of Saturday, August 9th, and of Monday, the 11th, respectively, contains special articles on the Charities of Edinburgh. The first treats chiefly of the Medical Charities, and contains much that is deeply important, and not at all satisfactory or creditable. It appears that about £45,000 is spent annually in healing the sick, independently of what is spent by the city in support of the City and Fever Hospitals. Rather more than half of this sum comes from annual voluntary subscriptions, the other from interest on endowments, and from students' and nurses' fees. The population of Edinburgh amounts to 236,000, and no less than 103,095 cases—for the most part, distinct persons—are relieved by these medical charities, in this metropolis of a sturdy and independent race. We agree with our contemporary that these figures taken in the gross are "startling," and we regret to say that when we look into the particulars given they are not less so. The following are the various institutions and the numbers treated. There is one defect in the excellent articles of our contemporary. They are based exclusively on the rough statistics of the annual reports. They would have been much increased in interest by personal investigation of cases and of methods.

Royal Infirmary—	
In-door patients	8,600
Out-door	26,000
Sick Children's Hospital—	
In-door	685
Out-door	7,610
Chalmers' Hospital—	
In-door (non-paying)	229
Out-door	3,428
Maternity Hospital—	
In-door	320
Out-door	670
Royal Dispensary	7,224
Provident Dispensary	9,957
New Town Dispensary	9 637
Medical Mission Dispensary	10,089
Western Dispensary...	4,000
Homœopathic Dispensary	2,000
Women and Children's Dispensary	235
Eye, Ear, and Throat Dispensary...	2,613
Eye Dispensary	1,413
Dental Hospital...	8,385
	103,095

We can find little to criticise in the facts touching the Royal Infirmary. With a number of in-patients equal to our own London Hospital, it has less than one-fourth of the number of out-patients treated at the London Hospital. The total expenditure is £35,917. Of the receipts, £9270 come from interest and dividends and £15,772 from subscriptions. Legacies last year amounted to £30 543 12*s.* 11*d.* All legacies over £100 are entered in the extraordinary account, and after the maintenance of the structure is provided for the balance is transferred to the capital account. Edinburgh is the principal source of subscriptions and legacies, especially of the latter; but Leith and the surrounding country, which largely use the infirmary, contribute. When we consider that this hospital has to supply the chief material for clinical study of one of the largest medical schools in the world, it cannot be maintained that its expenditure is excessive. When we come to Dispensaries the figures are not satisfactory. Two compete with each other: the Royal Dispensary (the old dispensary which has always counted for much in the scant clinical field of Edinburgh) and the so-called Provident Dispensary. The average cost per patient at the Royal Dispensary is 1*s.* 1½*d.* The number of patients treated last year was 7224. The income was £555, of which £207 17*s.* 4*d.* was from pupils' fees. The services of the medical men are gratuitous, save an honorarium of £21. The number of patients is diminishing,—it is supposed from the rivalry of the so-called Provident Dispensary. This Provident Dispensary is lauded by our contemporary as the most creditable illustration of a growing attempt to make the patients pay for their mercies. If this is really the most creditable performance in the direction of providence, all we can say is that Scotland seems even behind England in this virtue. The total income of this institution, with 9957 patients, amounts to £219 1*s.* 7½*d.*, of which the large sum of £100 16*s.* 1½*d.* consists of fees paid by patients for prescriptions. If such contributions are to be dignified with the name of "providence," the sooner the word is got rid of the better. The public, the medical officers, and the patients are all misled by such a system, which treats patients at the rate of 5½*d.* a head, and, on the strength of a payment of 2*d.*, flatters them with the notion that they are paying for what they get. It is not so that self-respect can be taught either to medical students, medical practitioners, or patients, or that diseases can be properly treated. The essence of a provident system is one in which systematic payments are made in health in anticipation of a time of sickness, and under which an attempt is made to pay the medical officer an adequate sum. We should like to know how the medical officers fare under this virtuous institution. At the Dispensary for Women and Children all parties alike seem to flatter themselves that they are supporting a provident system. Applicants, so disposed, are encouraged to become "provident" members by paying half-a-crown quarterly, which "entitles" them to free treatment and medicine. We respect all attempts to get the poor to respect themselves, but such experiments as these in the great cities of Scotland show how little has yet been done, and explain how Medicine comes to be lightly regarded even at the very seat and centre of medical education. What would Dr. Chalmers have thought of a social system which, in 1890, finds nearly half the population of Edinburgh receiving medical attendance as a charity, or for a pittance more degrading than charity itself?

SANITATION IN INDIA.

THE report which has issued from the India Office upon the sanitary measures taken in the dependency during the year 1888-89 covers, as usual, an immense field—immense, that is to say, whether regard be had to the extent of the operations passed under review, or to the variety of the matters to which it refers. The problem of introducing a system of sanitation into a vast and populous country like India is one of almost overwhelming dimensions. The difficulties are incomparably more serious than those attending upon the establishment of wholesome conditions in an absolutely new country, for the simple reason that the people in many parts are accustomed to live amid surroundings almost too horrible for description, and very naturally they distrust and passively, if not actively, resist innovation. Still, even when all allowance is made for the conservatism of an Eastern race, it is not quite easy to understand the state of mind described in the following terms by one of the Sanitary Commissioners: "The question of village sanitation is far more difficult than that of towns, and it will require a long time to overcome the habits and customs which generations of Punjaub agriculturists have followed. The conditions in and around many villages which I have visited are so bad as to create a feeling of wonder how human beings could continue to preserve health under such circumstances; but the villagers themselves look upon these arrangements with anything but disgust, although if asked they will readily admit that they are bad and objectionable." How serious the obstacle is which such supineness interposes in the way of improvement may be judged from the following narrative: "Old nuisances have been abated, but new nuisances come with new buildings. Here is a description of one which was heard at the Girgam Police-court. Mr. Ryan came to see the

nuisance with Mr. Smith; the stench was fearful. It was difficult to believe that people could live in such a stench; but they lived, and suffered. Poor people, weavers, much affected in health, had dug holes and prepared the rooms for weaving, and having done so, suffered rather than leave and lose a day in finding a new dwelling."

It is not alone the uncomplaining patience of the population under conditions which constitute not only a grievous hardship, but also a serious peril, which contributes to the burden of official duty in reference to sanitation in India. In cases which require the active coöperation of the people themselves in sanitary measures the greatest difficulty is, of course, experienced. Thus, for example, the work of vaccination is seriously impeded by the indisposition of the people to assist the vaccinators. "Considerable difficulty is experienced," says Dr. Macrury, "in keeping up arm-to-arm vaccination in some towns on account of the refusal of parents to allow vaccinators to take lymph from their children; and as animal vaccination entails expenditure beyond the means of most municipalities it would be advisable to make it obligatory to give lymph when required." The Government of India does not appear to have approved the suggestion of fresh legislative measures thus put forward by the Commissioner, and we think that probably it is well advised, but whether it would or would not be judicious to enforce by law the moral obligation to coöperate in such a work as the extension of the protection against small-pox, it is from either point of view plain that the prejudices of the native races must seriously impair the efficiency of the work which the vaccinators can accomplish.

But it must be admitted that the most striking illustration which the present report affords of the mischief wrought by ignorance and prejudice conveys a reflection, not on the people of India at all, but upon those obscurantists nearer home, whose unfortunate success has resulted in the suspension of the operation of the compulsory clauses of the Contagious Diseases Acts. The immediate result is that one after another the lock hospitals are being closed, and although the period of suspension has been too short for the statistical result to be as yet manifest in the tabulated returns, it would be childish to affect a doubt that the diminished supervision must result in an increase and aggravation of disease. Indeed, the testimony of medical men in a position to judge is to the effect that such results are already observable, and it cannot be doubted that future years will develop these features in still more striking proportions. Serious as it is, the mischief is done, and it only remains to hope that when its seriousness becomes plain, even to feeble understandings, the dormant conscience of our people will be awakened, and the now withheld remedy be re-applied.

Upon the whole, then, the year that is just passed cannot be regarded as having been in any sense a great year in the history of Indian hygiene. No great calamity has overtaken the people of India, but this immunity from "plague, pestilence, and famine" can hardly be credited to the very imperfect sanitation of our vast dependency. The fact is ground for a sense of relief rather than for congratulation. Still the great work progresses, though slowly, and those who are engaged in it are assuredly entitled to all the aid which can be extended to them from home, not excluding the moral support of a sympathetic and appreciative estimate both of their difficulties and of their achievements.

HEPATIC ABSCESS.

THE surgical treatment of liver abscess, after having been long recognised as the most direct and probable way of effecting a cure, has of recent years assumed an established position, and abscess of the liver, when diagnosed, is nowadays practically treated like abscess elsewhere—namely, opened, and the pus evacuated as soon as possible. A large measure of success has attended this line of practice. The subject has been fully discussed of late years by many authorities, and some valuable rules and suggestions have arisen from increased experience. While all are agreed as to the aim and object of the operation, and the principles that should guide surgeons, there is still some diversity of opinion and practice in regard to details.

Surgeon A. W. D. Leahy, F.R.C.S. Eng., the officiating Residency Surgeon, Hyderabad, recently delivered a clinical lecture to the students of the Nizam's Medical School at that place, in which he sought to impress the advantage of treating liver abscess by free incision and drainage under antiseptic precautions. He speaks from experience, and his lecture contains several practical points that merit attention. Hepatic abscess, he says, is of such common occurrence in that part of India as to have afforded them considerable advantages in becoming acquainted with its different varieties and of judging of the value of the several methods of treatment. As regards the connexion between liver abscess and dysentery, inquiry into the history of the cases shows that tropical abscesses are frequently met with in cases in which there is no history of a previous attack of dysentery. For practical purposes he classifies hepatic abscesses into traumatic, tropical, and infective; but it is to the large, single, local tropical abscess that special attention is directed. Very extensive suppuration may occur in the liver without there being any symptoms of importance pointing to its existence. Such "silent" hepatic abscesses are not unfrequently met with in practice. The symptoms and diagnosis need not be discussed. The former depend to some extent upon the seat, and the latter, as well as success in their surgical treatment, depends largely upon their situation. When near the anterior aspect of the gland, and making their way towards that surface, they can be usually easily diagnosed and treated by aspiration and incision. Not so, however, when their site is towards the centre of the organ, or when they point on its upper aspect or along its thick posterior border. Much may be done by surgical treatment in suitable cases, for there are, unfortunately, cases of this disease that are not amenable to surgical interference. Where there is a tumour in which fluctuation can be detected the aspirator may be used; but if it quickly refills and the patient's temperature rises, Mr. Leahy strongly recommends that an incision be made into it, the pus evacuated, the cavity washed out with carbolic lotion or perchloride of mercury, a drainage-tube inserted, and the case from first to last treated antiseptically. He speaks of fifteen cases treated in this way, with two deaths; and dwells upon one or two practical points in connexion with this method of treatment, the following being an extract from the lecture:—"In those cases where you have to open the peritoneal cavity before cutting into the abscess, you will find it useful, before dividing the peritoneum, to pass a curved needle through the serous membrane and wall of the abscess at the upper part of the incision in the abdominal wall, bringing it out through the structures of the wall of the abdomen on one side of the incision. The needle should then be threaded with a piece of silk, carried across the sac, i.e., within the cavity of the abscess, and made to protrude through the opposite lip of the incision, the skin not being included on either side. This manœuvre is then repeated at the opposite angle of the wound, and both strands of silk are given to an assistant to hold. He is instructed to pull them upwards, thus bringing the wall of the sac with its serous covering closely in contact with the parietal peritoneum. You then cut into the abscess between the two pieces of silk, tell the assistant to slightly relax one of them, so as to enable you to hook up the loop of silk from the interior of the abscess with an aneurysm needle, and bring it into the wound. This loop is then divided, and the two halves of silk are tied on each side of the wound. When the same thing is done with the other piece of silk, the edges of the incision in the sac of the abscess and in the parietal layer of peritoneum are closely applied the one to the other and both of them are fixed to the wall of the abdomen. Any escape of pus into the cavity of the peritoneum is thus effectually prevented. The other practical point to which I would direct attention is the removal of the drainage-tube. As soon as the discharge from the cavity of the abscess is sufficient only to stain the gauze dressing, the tube should be removed. If it is allowed to remain in for longer it is apt to set up irritation and cause pyrexia. The drainage-tube used should be of large calibre, and for the first few days should be secured by means of a silk suture to the skin of one lip of the incision to prevent it receding into the cavity of the abscess." He adds, in regard to those cases in which the existence of hepatic abscess is suspected, but where there are no local physical signs of its presence, that "some surgeons in such cases are in favour of exploring the liver for pus by means

of the aspirator. Such a method of treatment is, I think, open to doubt, for even if we are lucky enough to hit off the abscess, the evacuation of its contents by aspiration is not likely to result in a permanent cure, and when the abscess refills, as it nearly always does, it may be seated so deeply within the substance of the gland as to forbid our cutting into it, and thus treating it successfully."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Diphtheria in the Samford Rural District.—This district lies in Suffolk, and, until the occurrence dealt with in this report by Dr. Airy, its mortality from diphtheria has for years past been very slight. But suddenly in 1889 the disease broke out in a fatal form, killing fifteen persons in the Holbrook subdistrict. One interesting point in reference to this outbreak, which commenced in the village of Chelmondiston, about five miles south-east of Ipswich, and near the hamlet of Pill Mill, a boating station, is the fact that on May 31st a cargo of London manure was landed from a barge and carried in open carts up the lane leading from Pill Mill to Chelmondiston. Several of the children returning from the village school complained much of the resulting stench, and one child sickened of diphtheria the same night, another the next day, and a third on the following day, all three attacks proving fatal. Subsequently the disease spread through the agency of school attendance. In view of the difficulty of eliminating, as a cause of the first attacks named, the occurrence of undetected but infectious sore-throat, it is impossible absolutely to put the onus entirely on the London manure. But it is somewhat remarkable that instances of this sort are becoming more numerous; that London and other town manure is being more and more identified as a cause, not only of nuisance, but of disease; and that complaints as to it are by no means uncommon. In short, if agriculturists find it to their advantage to procure this material for fertilising purposes, they ought to do so under conditions that shall free the inhabitants through whose districts it has to travel from every reasonable cause of complaint. At present the traffic is all but unregulated. Another point of interest is an extension following on a school treat. This, again, is no new occurrence; and it seems that the sort of assemblage and mixing of children which takes place on these occasions is especially liable to cause diffusion of the diphtheria poison. Dr. Airy also discusses the question of wind currents as a means of conveying the infection of diphtheria. He may be regarded as one of the principal exponents of this view of transmission, but the meteorological material at his disposal in this instance was very limited; and the only point made out has to do with an extension of the disease to Tattingstone, a village about four miles west of Chelmondiston. On Tuesday, July 30th, that is to say, immediately preceding this event, the wind was blowing from the east—namely, from Chelmondiston to Tattingstone. It could not be ascertained that the first patient attacked had been exposed to infection, but beyond this not much could be made out.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5824 births and 3905 deaths were registered during the week ending Aug. 16th. The annual rate of mortality in these towns, which had been 19·6 and 19·2 per 1000 in the preceding two weeks, rose again last week to 21·0. The rate was 20·6 in London and 21·2 in the twenty-seven provincial towns. During the first seven weeks of the current quarter the death-rate in the twenty-eight towns averaged 18·6 per 1000, and was 2·0 below the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 11·9 in Nottingham, 12·8 in Oldham, 14·1 in Bristol, and 14·3 in Bradford. The rates in the other towns ranged upwards to 26·3 in Cardiff, 27·6 in Manchester, 33·9 in Newcastle-upon-Tyne, and 43·6 in Preston. The deaths referred to the principal zymotic diseases, which had increased in the preceding four weeks from 526 to 750, further rose last week to 960; they included 636 from diarrhœa, 118 from measles, 74 from whooping-cough, 70 from scarlet fever, 34 from "fever" (principally enteric), 28 from diphtheria, and not one from small-pox. The lowest death-rates from these diseases were recorded in Oldham, Halifax, Bristol, and Bradford, and the highest rates in Manchester, Sheffield, Norwich, and Preston. The greatest mortality from measles occurred in Birkenhead and Manchester; from scarlet fever in Manchester and Liverpool; from whooping-cough in Huddersfield, Brighton, and Norwich; from "fever" in Wolverhampton; and from diarrhœa in Leicester, Sunderland, Sheffield, Norwich, and Preston. The 28 deaths from diphtheria included 15 in London, 3 in Liverpool, 3 in Salford, and 2 in Leeds. No death from small-pox was registered in any of the twenty-eight towns. No small-pox patients were under treatment in the Metropolitan Asylum Hospitals at the end of the week, and only one in the Highgate Small-pox Hospital. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of last week was 1457, against 1505 and 1493 on the preceding two Saturdays; the new cases admitted during the week were 125, against 168 and 118 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 215 and 197 in the preceding two weeks, rose again to 208 last week, and exceeded the corrected average by 23. The causes of 74, or 1·9 per cent., of the deaths in the twenty-eight towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Norwich, Wolverhampton, Hull, and in six other smaller towns. The largest proportions of uncertified deaths were recorded in Liverpool, Newcastle-upon-Tyne, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 21·1 to 17·2 per 1000 in the preceding three weeks, rose again to 18·2 in the week ending Aug. 16th, but was 2·8 below the rate which prevailed during the same period in the twenty-eight English towns. The rates in the eight Scotch towns ranged from 12·5 in Perth and 13·8 in Greenock to 18·8 in Edinburgh and 21·4 in Glasgow. The 470 deaths in the eight towns showed an increase of 25 upon the number in the preceding week, and included 36 which were referred to diarrhœa, 20 to whooping-cough, 7 to diphtheria, 4 to measles, 4 to scarlet fever, 2 to "fever," and not one to small-pox. In all, 73 deaths resulted from these principal zymotic diseases, against 90 and 67 in the preceding two weeks. These deaths were equal to an annual rate of 2·8 per 1000, which was 2·4 below the mean rate last week from the same diseases in the twenty-eight English towns. The highest death-rates from these diseases were 2·9 in Edinburgh and 4·2 in Glasgow. The fatal cases of diarrhœa, which had been 24 and 18 in the preceding two weeks, rose again last week to 36, of which 21 occurred in Glasgow and 6 in Edinburgh. The deaths referred to whooping-cough, which had been 36 and 28 in the previous two weeks, further declined last week to 20, and included 12 in Glasgow and 7 in Edinburgh. The 7 fatal cases of diphtheria exceeded the number in any recent week, and included 6 in Glasgow. The 4 deaths from measles showed a marked further decline from the numbers in the preceding two weeks; 2 occurred in Glasgow and 2 in Dundee. The deaths referred to diseases of the respiratory organs in these towns, which had been 77 and 64 in the previous two weeks, were 67 last week, and exceeded the number in the corresponding week of last year by 10. The causes of 45, or nearly 10 per cent., of the deaths in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 17·4 and 18·6 per 1000 in the preceding two weeks, further rose to 20·1 during the week ending Aug. 16th. During the first seven weeks of the current quarter the death-rate in the city averaged 20·3 per 1000, the rate for the same period being 18·4 in London and 17·2 in Edinburgh. The 136 deaths

in Dublin showed an increase of 10 upon the number in the previous week; they included 8 which were referred to diarrhœa, 3 to whooping-cough, 2 to "fever," 1 to measles, and not one either to small-pox, scarlet fever, or diphtheria. Thus the deaths from the principal zymotic diseases, which had increased from 9 to 14 in the preceding three weeks, were again 14 last week; they were equal to an annual rate of 2·1 per 1000, the rate from the same diseases being 5·2 in London and 2·9 in Edinburgh. The fatal cases of diarrhœa, which had been 3 and 8 in the previous two weeks, were again 8 last week. The 3 deaths from whooping-cough and the 2 deaths referred to "fever" corresponded with the number in the preceding week. The deaths of infants showed a slight further increase upon recent weekly numbers, while those of elderly persons showed a marked decline. Three inquest cases and 2 deaths from violence were registered during the week; and 38, or more than a fourth, of the deaths occurred in public institutions. The causes of 16, or nearly 12 per cent., of the deaths were not certified.

THE SERVICES.

Surgeon-Major A. E. Hayes has been invested by Her Majesty with the Distinguished Service Order for his services as Senior Medical Officer at the action of Toski.

ARMY MEDICAL STAFF.—Brigade Surgeon John Alex. Scott retires upon retired pay (dated Aug. 20th, 1890).—The undermentioned Surgeons to be Surgeons-Major, ranking as Majors (dated Aug. 4th, 1890):—John Stevenson, M.B., F.R.C.S. Edin.; Wm. Lemon Lane, M.B.; Patrick Joseph Dempsey, M.D.; Kenneth Serjeant Wallis; John William Henry Flanagan; Owen Edward Pennefather Lloyd; Jas. Gaussen MacNeece; Morgan David O'Connell; Alexander Stewart Ward Young; Arthur Harding; John Joseph Falvey, F.R.C.S.I.; and Charles Seymour, M.B.

ARMY MEDICAL RESERVE OF OFFICERS.—Surgeon John Edward Squire, M.D., resigns his commission (dated Aug. 20th, 1890); Surgeon Robert John Collie, M.D., resigns his commission (dated Aug. 20th, 1890).

VOLUNTEER CORPS.—*Artillery:* 2nd Hampshire (Southern Division, Royal Artillery): Acting Surgeon B. J. Guillemard, M.D., to be Surgeon (dated Aug. 16th, 1890).—5th Lancashire: Acting Surgeon H. C. Lamport, M.B., to be Surgeon (dated Aug. 16th, 1890).—*Royal Engineers:* 2nd Tower Hamlets (East London): Acting Surgeon W. A. Dingle to be Surgeon (dated Aug. 16th, 1890).—*Rifle:* 2nd Volunteer Battalion, the Sherwood Foresters (Derbyshire Regiment): Surgeon and Surgeon-Major W. Milligan is seconded whilst holding the appointment of Brigade Surgeon in the North Midland Infantry Volunteer Brigade (dated Aug. 16th, 1890).—1st Tower Hamlets (the Tower Hamlets Rifle Volunteer Brigade): Joseph Dallas Pratt, M.D., to be Acting Surgeon (dated Aug. 16th, 1890).

Correspondence.

"Audi alteram partem."

THE INFECTIOUS DISEASE (NOTIFICATION) ACT, 1889.

To the Editors of THE LANCET.

SIRS,—I am exceedingly obliged to you, in common with many other medical officers of health throughout the country, for your very able exposition of the Infectious Disease (Notification) Act of 1889, and of the Orders of the Local Government Board of 1880. There are circumstances, however, connected with the Notification Act that you have not mentioned—those, namely, in which the medical officers of health are placed so as to necessitate them to refer to the diagnosis of the medical practitioner; your strictures, therefore, in your leading article of the 16th inst. with regard to the duties of medical officers of health, without any qualification, are, in my opinion, misleading.

On page 334 you state, referring to the correctness of the diagnosis: "As to this, we would, in the first place, point out that a medical officer of health has no right whatever, in virtue of his office, to visit and examine the sick without the permission of the patients or of those responsible for their care. And, further, any medical officer of health who follows such a course, except it be in concert with the medical practitioner in attendance, commits a distinct breach of medical etiquette and of ordinary courtesy." In answer to this, I beg to state that medical officers of health have to confirm, or otherwise, all the charges made on their authorities by practitioners in respect of notifications, and if they find the person or persons represented to be suffering from such a disease on the day the notification paper was dated, or the day after, in the door of the dwelling-house, in the yard connected therewith, or in the playground, without any symptom whatever to confirm the said diagnosis, as I have often found them, how are they to act? Every medical officer of health is expected to do his duty, and every faithful and conscientious man will be truthful and honest to his employers. I say, therefore, that occasions do occur—too often, I regret—when medical officers of health, in the interest of justice and integrity, must refer to the correctness or otherwise of the practitioner's diagnosis.

I am, Sirs, yours faithfully,

ANGUS MACKINTOSH, M.D.,
Chesterfield, Aug. 19th, 1890. Medical Officer of Health.

To the Editors of THE LANCET.

SIRS,—Several months have elapsed since you did me the honour to insert a series of letters from me on the above subject. My views have not changed since the passing of Mr. Ritchie's Act, but I have thought it best to wait patiently and let events justify them. I am glad to find from your leading article of last Saturday that you still hold the scales impartially between medical officers of health and general practitioners. But friction between these was the least evil that I foretold, and I trust you will shortly take notice of the increasing concealment of disease which is the natural result of the Act. Dr. Atkinson gave you a few specimens a week or two ago, and I have no doubt you have received intimation of the same kind of thing from other quarters. The investigation which Mr. Corbett and I carried out privately a year or two ago, by seeking information from medical men in the large towns where the dual system had been in force, revealed a truly appalling state of things, of which I gave instances in my letters to you. But, after all, the true test is the effect upon the number of cases of disease of the specified kinds, and more particularly upon the death-rates arising from them. It must not be forgotten that there has throughout the kingdom, for years past, been a more or less steady declension in the death-rates from nearly all preventable diseases; and it can be shown quite clearly that notification (at least, the dual system) instead of accelerating has actually interfered with this declension. You will recollect that Mr. Hastings, chairman of the Police and Sanitary Committee of the House of Commons, invariably adduced Edinburgh as the model town in which the dual system of notification was carried out as it ought to be, and in which all its advantages were most conspicuously exhibited. Well, quite recently Dr. Littlejohn, medical officer of health of Edinburgh, has produced a report in which he contrasts the death-rates of the ten years succeeding the introduction of notification with those of the ten years immediately preceding. The most noteworthy facts produced are that, taking the averages of the two decades, the total zymotic death-rate declined from 3·33 to 1·82 per 1000, and the death-rate of scarlet fever in particular from 0·95 per 1000 to 0·45; also that during the ten years succeeding the enforcement of the dual system there had been 52,188 notifications (indicating, of course, that number at least of notifiable cases), and that the cost had been £6523 10*s.* Now, the population of Edinburgh in 1881 was 228,357; in 1871 it was 196,979. The average for the last decade has therefore probably not exceeded 250,000. But even thus, on the average, 1 in 48 of the population have been the victims of some notifiable disease every year, and in the ten years every fifth person at least, equivalent to *not a house uninvaded*, notwithstanding the enforcement of notification and the apparently general compliance therewith. But I recollect that one result of THE LANCET inquiry was to elicit the fact that the tailors and others in Edinburgh who took work to their own homes rarely called in a doctor when their children were ill with any disease which they feared might be notifiable, and that concealment

was rife in this model city. And when we come to compare the decline in the death-rates with that which has taken place in even the worst English towns where there has been no system of notification until quite recently (such as Liverpool, Birmingham, Bristol, Wolverhampton), we find it completely outdone. Thus, whereas in Edinburgh the annual saving of life as shown by the total zymotic death-rates of the two decades is 1·51 per 1000, the annual saving of life effected in the above four towns (in an interval to all intents and purposes the same) has been 2·30 per 1000 on the total zymotic death-rate, and where the saving of life in regard to scarlet fever has been 0·50 per 1000 in Edinburgh, it has been 0·64 per 1000 in the four English towns. Tables proving this, so far as the English towns are concerned, were published more than a year ago, and I have much pleasure in sending you copies of them.

Now, in the face of these undeniable facts I should like to know how Dr. Alfred Hill, medical officer of health of Birmingham, could have spoken as he did, in his address on Public Medicine, at the recent meeting of the British Medical Association. He says: "Being for years a strenuous advocate of the measure (compulsory notification), I am gratified to find that the social and professional objections to the Act, which always appeared to me to be of the weakest possible kind—unworthy of either the professional spirit or the intelligence of medical men—are proved to have had no foundation whatever." Allow me by way of reply to say that it will take arguments a great deal more cogent than these to turn me and those of the same way of thinking from our purpose. Incidentally—and I have no doubt inadvertently—Dr. Alfred Hill himself supplies a most effective weapon for our use when he goes on to say: "Many more cases now are reported than before." In the towns where the dual system has been in force longest, there is no sign whatever of decadence in the number of notifications, and it is quite clear that notification is not effectual to the stamping out of the diseases notified. It would be madness on the part of the public to consent to pay for the notification of measles and whooping-cough, which, however, slay far more of the population than the diseases at present notifiable, until some better guarantee is forthcoming that the money will not be thrown away. The money hitherto spent on notification might just as well be thrown into the sea—indeed far better, for lives would not then have been sacrificed to a stupid theory which was doomed to failure from the first.

I am, Sirs, yours faithfully,

Kingston-on-Thames, Aug. 18th, 1890. D. BIDDLE.

CASES OF POISONING AT COGENHOE.

To the Editors of THE LANCET.

SIRS,—On Wednesday morning, Aug. 13th, I received a note from the schoolmaster of Cogenhoe, a village about five miles from here, requesting my attendance on two young persons suffering from "dysentery." On reaching the place I found not two only, but a dozen or more, principally young women and girls, all suffering from the following symptoms: Severe abdominal pain, chiefly in the epigastric region, frequent vomiting of a thin, greenish fluid, nausea, and severe purging, accompanied in a few cases by tenesmus, a yellow, dry, coated tongue and thirst, weak, rapid pulse, countenance anxious and distressed. To my questions they one and all returned the same reply: that on the previous Monday they had attended a tea-party, on the occasion of some local treat, and had partaken of some sandwiches prepared with potted beef. Many had taken no other food, but others who ate buns and cake, and had not eaten the sandwiches, escaped. The treatment I need scarcely detail, as it consisted of the usual medical remedies for allaying the pain and irritation and stopping the excessive purging. The abdominal walls were so tender that ordinary fomentation or linseed-meal poultices could not be borne. In one of the cases there was nocturnal delirium, but in all sleeplessness at first was more or less present. I was not informed till two days later of the particular source from which the potted beef had been supplied, when I ascertained it had been prepared from some fresh beef by the cook of the Rector of Cogenhoe. Upon inquiry, I learned that the stock of comestibles had been consumed. Taking into account that the weather was sultry and electric disturbances in the atmosphere prevalent, and that the beef had been prepared at least two days (Sunday intervening) before the sandwiches were eaten, I think there can be no doubt of the poisoning being due to the changes that must have occurred, and the probable development of organic alkaloids in the beef in question. An attempt was made, from natural and perhaps pardonable anxiety, to disclaim all idea of such being the case, and to suggest other causes, but this suggestion could not be entertained. The patients are now mostly convalescent, but two or three are still seriously ill, and will require careful watching.

I am, Sirs, yours obediently,

J. HAWKES, M.D.

Yardley Hastings, Northampton, Aug. 19th, 1890.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Holiday Season.

AUGUST is proverbially a holiday month for medical practitioners, and the present one is no exception to the rule, the weather having been of late most favourable for those seeking rest and change by travel. Liverpool is most favourably situated for those wishing to take long or short voyages, and indeed all the tourist resorts of the three kingdoms are very accessible. Within the last few years two enterprising companies have brought the well-known Welsh seaside places, Llandudno and Beaumaris within easy reach of Liverpool. Passengers can leave at a convenient hour (9.45 to 10.30 A.M.) and reach either of the places named in from two hours to three hours and a half after a delightful voyage, returning so as to reach Liverpool about seven o'clock. Comfortable meals can be had on board. Weekly and monthly tickets are issued on favourable terms, and many persons avail themselves of this means of enjoying the advantages of a long voyage without its discomforts by sailing daily to Beaumaris or Llandudno.

The Royal Infirmary.

But for the plumbers' strike the new infirmary would have been completed before this. Little, however, now remains to be done externally, and the public have already excellent opportunities of judging of the sagacity of the committee and the medical staff as regards two very important points. The first is the retention of the infirmary on its present site, everything tending to show how disastrous its removal would have been in every way to the neighbourhood, to the school of medicine, the profession, and the public generally. The second is the advantage of having the main entrance and the administrative department in a leading thoroughfare. It is now past history that many inhabitants of Liverpool did not know where the Royal Infirmary was. An immense proportion of its citizens now pass it daily, and its exact locality will soon be known to everybody. The opening will be awaited with much interest, and the many resources of the building will be greatly appreciated during the coming winter session by the medical, surgical, and resident staff, and students of the present and future generations.

The New Mortuary.

The new mortuary is now open for the use of the public, and the circumstance is very opportune, since attention is being drawn to the existence as well as the condition of mortuaries throughout the country. It would not have been creditable had Liverpool been found wanting in this respect. In the battle of life many are found dead and exposed. In a civilised country it is only reasonable to expect that the poor remains should be afforded shelter in a suitable place—meaning thereby, according to modern sanitary requirements, something very superior to the miserable structures which are still to be found in use as mortuaries in Lancashire as elsewhere. Besides providing mortuaries, local authorities ought to supply a post-mortem room in each district, as has been done here. That half of the world which knows how the other half dies, as represented by coroners and medical witnesses, should never cease to urge this requirement upon local authorities until the want is supplied.

Liverpool, Aug. 20th

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

A Handsome Gift to Newcastle.

THE late Mr. Lewis Thompson, of Newcastle, by will a short time ago left the handsome sum of £15,000 to the overseers of one of the poorest districts (Byker) in Newcastle-on-Tyne, the interest to be by them applied to the reduction of the poor-rate. The legacy is very important, as it produces about £420 per annum, fully 20 per cent. of the entire rate of the district. The conditions are very simple—namely, that the overseers are on Aug. 16th annually to place a cheap wreath of flowers on his father's tomb and to keep the said tomb in repair, failing which the bequest is to revert to the "British nation." The conditions are likely to be carried out in Newcastle, and they were fulfilled on Saturday last when the wreath was placed on the tomb, which was certified to be in good repair.

The Increase of Lunacy in the North.

An important letter from the chairman of the Lunacy Committee was laid before the Kirkby Stephen Board of Guardians at their last meeting, pointing to the rapid increase of lunatics in the two asylums (Cumberland and Westmoreland), there being at present nearly 600 patients in these institutions. The difficulty would have to be solved in one of three ways—(1) by giving up all private patients; (2) by a costly enlargement of the building; (3) by the two counties each providing for their own asylum. The circular goes on to note the rapid increase, and to ask the guardians to retain in the workhouse harmless imbeciles of youthful age, and old men and women who have become weak-minded, and thus enable the present accommodation to suffice for some years to come.

Middlesbrough.

A rather daring attempt to dispose of diseased meat took place at Middlesbrough last week. A carcase had been condemned as unsound in the public slaughter-house, but one night a party of six men broke into the building and took the meat away in a conveyance. They were, however, captured by the police, and have been mulcted in heavy fines in default of imprisonment.—I hear that active steps have been taken towards the building of a new wing for the out-patients' department of the North Ormesby Cottage Hospital, and that the workmen of the district have sent in their first instalment of £250 towards the purpose.

South Shields.

The seventeenth report of the Ingham Infirmary, South Shields, has just been issued. The governors state that, notwithstanding the unexpected and extraordinary outlay, principally caused by the insanitary state of the building, the balance-sheet shows a credit on the year's working of nearly £100. This is owing to the gifts of the Ecclesiastical Commissioners and other gentlemen who liberally subscribed, aided by a handsome increase in the workmen's subscriptions, so that the special debt has been quite cleared off. The house surgeon's report gives the number treated at the infirmary and dispensary during the year: In-patients, accidents and urgent cases, 158; out-patients treated at the dispensary, 1004; treated at their own homes, 560; casual cases treated at the dispensary, 4554; accidents treated as out-patients, 409.—The following notice of motion has been given in the City Council: "That, considering the high average death-rate of the city, it is expedient to call in an expert to report upon the sanitary condition of Newcastle-on-Tyne, and that the Sanitary Committee be requested to do so immediately."—The late Miss B. Jackson of Newcastle, daughter of the late Rev. Samuel Jackson, Wesleyan minister, left £1000 to be divided amongst charitable institutions, including £100 to the Newcastle Royal Infirmary.

Newcastle-on-Tyne, Aug. 21st.

EDINBURGH.

(FROM OUR OWN CORRESPONDENT.)

The Prevention of Overcrowding.

AT the end of last week, at a joint Subcommittee of the Lord Provost's and Public Health Committees of the Town Council, a motion was considered as to the desirability of enforcing Clauses 230, 231, and 232 of the Municipal and Police Act of 1872, referring to small houses. The motion specially dealt with the question of placing tickets on small dwellings, setting forth their capacity and the number of persons they should contain. Reports on the subject were submitted by the medical officer of health and the burgh engineer, and ordered to be printed in view of another meeting being held.

Health of the City.

The death-rate last week was 18 per 1000. Chest diseases accounted for 27 deaths and zymotic diseases for 9. The intimations included 4 cases of typhoid, 24 cases of scarlatina, and 14 cases of measles.

The Increase in the Staff of the Royal Infirmary.

The wisdom of the decision come to by the managers of the Royal Infirmary to appoint three additional assistant physicians receives its confirmation in the strain put upon the members of the staff left in town when the great exodus takes place in August, not only of the general public, but of the professions, the medical not being behind its sister professions in the eagerness with which it doffs the professional and city garb for that of the hills and the lochs. These appointments are to be made early in October, in time for the winter session.

Edinburgh, Aug. 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

DUBLIN.

Death from an Overdose of Paraldehyde.

ON Sunday evening week a patient in the Fever Hospital attached to the Cork Workhouse died from the effects of paraldehyde. The deceased, Bridget O'Brien, aged twenty, was admitted suffering from typhoid fever, and but slight hopes were entertained of her recovery. As she was suffering from violent delirium and sleeplessness, a hypnotic was prescribed, and the temporary nurse, acting for the ordinary nurse during leave of absence, whose name was Horgan, was instructed, both verbally and in writing, how to administer the medicine. The patient getting worse, Horgan overlooked the directions she had received, and, instead of giving one teaspoonful, unfortunately administered the entire contents of the bottle—viz., from six to seven teaspoonfuls. In about five minutes O'Brien fell into an unconscious state, and, despite medical assistance, remained in that state for four hours, when she died. Horgan, it may be added, had done similar duty as temporary nurse in the most satisfactory manner during the past three years, and was a paid official of the hospital. She stated that, in the excitement caused by the delirium of the patient, she never looked at the label on the bottle. The quantity of paraldehyde that was administered is not mentioned, but it may be supposed the deceased girl took from six to seven drachms. The resident medical officer of the workhouse, in giving evidence at the inquest, is reported to have said that weakness of the heart's action was accelerated by the overdose. This appears strange, as it is usually believed that paraldehyde, instead of weakening the heart, like chloral, strengthens it, and diminishes its frequency. It is for this reason that it is especially valuable in the insomnia of cardiac affections. The coroner's jury returned a verdict that death resulted from failure of the heart's action, accelerated by an overdose of medicine administered while in a weak condition from fever. Horgan has been arrested, bail being accepted, and the trial will take place at Douglas Petty Sessions.

Military Encampment in the Phœnix Park.

Last autumn the plan was tried of locating two regiments under canvas in the Phœnix Park, and, although not so successful as was expected, the authorities have repeated the experiment. A battalion of the Gloucester Regiment is now under tents close to the Magazine Fort, the reason for their transference being that certain alterations were required at Ship-street Barracks, and, further, that several deaths from fever had taken place during the year. The position chosen—the same as last year—is rather

exposed, and might have been better selected. The water-supply is ample and of good quality, being obtained by pipes from the Vartry. If the weather should be rainy, numerous cases of bronchitis and rheumatism may be anticipated.

Cork-street Fever Hospital.

During the year 738 patients were admitted, being an increase of 167 over the preceding year. Cases of measles and of enteric fever were very numerous. The hospital received a sum of £2700 as a further instalment of Mr. Bannon's legacy. The total receipts amounted to £7747 12*s.* 8*d.*

Dublin, Aug. 19th.

BELFAST.

Queen's College, Belfast.

From the report of the President (Dr. Hamilton) for the session 1889-90, I find that the number of students in attendance was larger than in the previous session, there being 461, as against 422 last year. In the Faculty of Medicine there were 249. There has been a steady and gradual growth in the number of students. One vacant professorship, that of Greek, has been filled up by the appointment of an old Queen's College student, Mr. Samuel Dill, M.A., ex-Fellow of Corpus Christi, Oxford. In referring to the numerous successes gained during the session by Queen's College students, the President mentions, amongst others, the name of Mr. Ernest W. M'Bride, who won first-class honours and an exhibition in Natural Science in the London University, first-class honours in Part I. of the Natural Science Tripos in the University of Cambridge, and a Foundation Scholarship in St. John's College. The following gifts have been presented to the College in the past twelve months by old students:—A collection of Australian animals and minerals, by Dr. E. Leslie Pooler; a collection of animals from the New Hebrides, by Dr. Dunlop, Staff Surgeon R.N.; a collection of animals from Sumatra, by Dr. John B. Graham; and a collection of birds from the Himalayas, by Dr. Alex. Porter, Brigade Surgeon, H.M.I.A. After referring to the excellent discipline in the College during the past year, the President concludes by pointing out that the College still suffers seriously from the want of additional buildings and equipments. 1. Several new chairs are urgently required. Anatomy and physiology should be taught from two chairs instead of being confined to one, and a chair of human and comparative pathology ought to be established. The President also suggests the foundation of a chair of oratory or public speaking (which would be of great advantage where there are so many students preparing for the Church and the Bar), and a chair of music. 2. Additional accommodation is most urgently needed for laboratories and for the natural history museum. Further, a suite of students' rooms (reading, refreshment, waiting, and lavatory) are greatly required, and residence halls for students would be of very great advantage.

The Belfast District Lunatic Asylum.

At the last monthly meeting of the Board of Governors it was decided to purchase a site of from 60 to 100 acres within convenient distance of a railway station, for the erection of an asylum, which may ultimately become the property of the county Antrim in the event of separation from the city of Belfast being agreed upon.

The late Dr. James W. T. Smith.

At the weekly meeting of the Board of Management of the Belfast Royal Hospital, held on Aug. 16th, a resolution was passed expressing the great feeling of regret felt by the Board at the loss the hospital (with which Dr. Smith had been connected for twenty-five years) had sustained in his death, and also conveying their sympathy to his family. The medical staff, at a meeting held on Aug. 19th, passed a similar resolution of condolence.

Belfast, Aug. 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Myxœdema by Grafting of a Sheep's Thyroid.

AT the recent meeting of the French Association for the Advancement of Science, held at Limoges, MM. Battencourt and Serrano of Lisbon communicated their experiences of this method of treating myxœdema. The patient was a female, aged thirty-six years, who had suffered for a long time from the inroads of this curious disease. She appeared to have no thyroid gland whatever, and it struck these observers that the grafting of some thyroid tissue from an animal might be of service in stemming the pathological processes. At any rate, the risks attending such a procedure being so infinitesimal, they resolved, with the patient's approval, to undertake the operation. The animal they selected was the sheep. Having excised its thyroid gland and divided this into two equal portions, they performed a grafting operation in each infra-mammary region of their patient, into which was inserted and secured the half of the animal's gland. The operation itself was quite successful, and the wound healed kindly. Of its effects on the disease, MM. Battencourt and Serrano report very favourably. They say that an amelioration was soon evident; it first manifested itself by an elevation in the previously subnormal temperature; next the number of red blood-corpuscles progressively but rapidly increased, so much so that within the space of a month they had almost reached the normal amount. Then the patient's movements were observed to become more supple and easy, while speech grew less embarrassed. The skin, which had entirely ceased any obvious action, renewed its functions, while the puffiness so characteristic of myxœdema became much less marked. The patient's weight decreased considerably, and the menses, which previously to the operation lasted usually over two weeks, now terminated their epoch within four days; in fact, it was apparent that the condition of the patient generally was altogether benefited by the method of treatment adopted. As to the precise way in which the improvement was effected, however, MM. Battencourt and Serrano could only venture an opinion. The improvement having been noticed almost from the day following the grafting, it appeared probable that it was due to a process of absorption by the tissues of the patient of the grafted glandular tissue which doubtless at once set in. Be this as it may, the amelioration was undoubted.

Abuse of Cocaine.

At a meeting of the Society of French Alienist Physicians, recently held at Rouen, M. Saury read a paper on this subject, which, in view of the extensive use which cocaine now finds, is of interest to practitioners in general. M. Saury related the case of a patient thirty-two years of age, who, being addicted to the abuse of morphine, had recourse to hypodermic injections of cocaine in order to relieve himself of the craving for the former. He soon, however, presented all the symptoms of an abuse of his remedy, for he suffered from insomnia, and became the victim of hallucinations and jealousy, with ideas of persecution, &c. His condition became so aggravated that it was necessary for his friends to have him secluded. Under these circumstances it became possible to gradually diminish the amount of cocaine, and after forty-eight hours of total abstention the delirium and hallucinations disappeared. Shortly afterwards, however, the patient fell back into his old habits, abusing both morphine and cocaine. The same symptoms recurred, accompanied by marked cachexia. Again, on suppressing the cocaine he was relieved of his delirium and hallucinations. These observations go to prove that the reckless use of cocaine is extremely likely to have serious consequences, for there was no doubt in M. Saury's mind that to this were to be attributed the delirium and hallucinations. He added that, in the case in question, as well as in seven others of the same kind which he had under observation, there was no history of alcoholism.

Paralysis of the Insane occurring in Husband and Wife.

At a sitting of the same Society M. Cullerre related a curious experience which he had in practice. Within the last few years he had under his care (1) a husband and wife, both the subjects of general paralysis; (2) a woman suffering from paralysis, whose husband was also under treatment elsewhere for the same affection; (3) another woman, who was also the subject of a paralytic attack, and whose husband was formerly in hospital under treatment for a tabetic disease. He asked himself the question, Could these be but mere coincidences? He thought not. Mendel, Sœmmerling, and Westphal had recounted similar cases. According to these authorities, especially Mendel, the cause of the general paralysis in these cases was nearly always syphilis. Notwithstanding his researches, M. Cullerre was

unable to arrive at the same conclusion. It was true that in the case of one of the women a syphilitic taint was well established; while as to her husband, all he could say was that the taint was probable. As to the others, he could find no taint or evidence to lead him to suspect one. In short, as to the etiology of these cases, he thought they had better restrict themselves to presumptions rather than categorically insist on a syphilitic *rôle*. But, admitting the syphilitic theory, all was not then explained. One had the right to ask why it attacked the same organs in the same couple. How came it that they both developed exactly the same malady? Then it must be remembered that, compared with other symptoms of the disease, syphilitic cerebral manifestations are very rare; moreover, there is no means of distinguishing that the cerebral lesion in a case of general paralysis with an undoubted syphilitic taint is a syhilitic lesion. It presents nothing, he said, characteristic or specific, and, so far as can be observed, differs in no way from similar lesions in cases entirely removed from a suspicion of syphilis.

Resection of the Liver.

At a recent meeting of the Academy of Medicine, M. Terrillon recorded the case of a woman, aged fifty-three, who was admitted under his care at the Salpêtrière suffering from a painful and voluminous swelling in the hepatic region. There was a history of four years' duration. An exploratory puncture was made into the swelling, and a few grammes of fluid resembling that of hydatid cysts drawn off. As, however, the tumour diminished little or nothing after the puncture, laparotomy was performed on April 1st, the abdomen being opened by an incision running parallel with the false ribs of the right side. A portion of the liver about the size of two fists was drawn outside, and was found to be riddled with innumerable small hydatid cysts. Some of them were already empty, but as the tumour had hardly at all diminished in size, and was continuous by means of a broad base with the liver substance, it was resolved to resect it. As, however, a formidable hæmorrhage was to be feared, an elastic band was placed round the base of the growth, and thus an artificial pedicle was constituted. The tumour so held by the elastic ligature was in this way separated from the body of the organ and fixed outside the abdominal cavity. Seven days were then allowed to elapse to give time for the usual adhesions to organise and shut out the peritoneal cavity. At the end of this time the now gangrenous swelling was removed, together with the ligature. The floor of the existing wound was of course formed by sphacelated hepatic tissue, but securely shut off from the peritoneal cavity by the adhesions which formed. Within six weeks the wound had completely cicatrised over, and now the patient, whom long suffering had reduced to a skeleton, was regaining her usual strength and weight, and leading her ordinary life.

Antiseptic Properties of Oxygenated Water.

M. Gibier records that, although the antiseptic properties of oxygenated water have been known for some time past, it has been little employed in consequence of its instability. The results, nevertheless, which he had obtained are worthy of notice. He found, in particular, that the rabic virus taken from a specimen of the spinal cord of a rabbit dead of rabies, when treated with oxygenated water, altogether lost its virulent properties. He thought it probable that it was under the form of ozone that the oxygen acted at the moment when the oxygenated water was decomposed. He had also made some experiments with a substance he called glycozone, obtained by submitting ozone to strong pressure in the presence of glycerine which was thus capable of taking up fifteen times its volume. The results were nearly the same as those obtained with oxygenated water, in some cases the action being less rapid; but on the rabic virus the effect was always strikingly well marked.

Paris, Aug. 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professorial Appointments.

PROFESSOR HEINRICH BRAUN of Marburg, who has been called to Königsberg, studied at Giessen, Berlin, and Heidelberg, and was appointed soon after graduation demonstrator at Giessen. In 1874 he entered the surgical hospital at Heidelberg, where he remained, first as a private lecturer then as professor, till called to Marburg. His masters in surgery were, above all, Gustav Simon and Czerny. He has written on the resection of the upper jaw, the surgery of the œsophageal tube, goitre, &c.—Professor Carl Fuerstner of Heidelberg, who is a pupil of Westphal, has been appointed to succeed Professor Jolly (Westphal's successor in Berlin) at Strasburg. For several years before his call to Heidelberg he was assistant physician in the department for mental disease in the Berlin Charité. The most important of his writings are those on Alienation of Mind in Lying-in Women, Electric Excitation of the Brain, Alcoholism, and Disturbances of Vision in persons suffering from Progressive Paralysis of the Brain.—Dr. Uhthoff, private lecturer in Berlin University, has been appointed Professor of Ophthalmology at Marburg, to succeed Professor Schmidt-Rimpler, who goes to Heidelberg. His writings treat chiefly of changes in the eyes in the course of constitutional diseases and diseases of the nerves, and are distinguished by copious descriptions of morbid conditions of the eyes.

The Prix Pourrat.

Professor Johannes Gad and Dr. François Heymanns of the Physiological Institute attached to the Berlin University have had the Prix Pourrat awarded them by the Paris Academy of Sciences for an essay on the influence of temperature on the functions of the muscular tissue.

Influenza.

The influenza has broken out again in Breslau. Dr. Rosenbach of that city writes: "In the last third of July two cases came to the hospital which we diagnosed as influenza. The number of similar cases has greatly increased since then, and is still increasing. The cases seem to be distributed over the whole city, and the patients seem to be mostly women, for we have had hitherto seventeen female and six male patients. It is remarkable that the symptoms of the respiratory apparatus play a very subordinate part, the fever is of short duration, but the headache, weakness, and languor are severe. The participation of the ocular conjunctiva seems to be comparatively frequent."

Dirt in Milk.

Professor Renk, director of the Hygienic Institute in the University of Halle, had his attention drawn recently by his wife to the fact that milk, especially in Halle, always leaves a dirty sediment. Renk has comprehensively examined the milk sold in Berlin, Munich, Leipsic, and Halle, and found that the Berlin milk is the cleanest, Leipsic is second, Munich third, and Halle fourth on the list. One litre of Halle milk contains on an average one gramme of dirt.

The Empress Augusta and von Langenbeck.

In a recently published letter written by the late Empress Augusta to a lady friend I find the following passage: "Let us concentrate all our forces with a will; therein lies the secret of surprisingly great successes. Langenbeck gave me a regular lecture on this some weeks ago, which I heard with great interest. Now, said he, we have not only our surgeons' congresses, which give us a survey of the real state of our own department of science, but it is simply magnificent that medical men from all parts of the globe gather together at international medical assemblies to look around them. That will help us forward, and not only will these gatherings be of great use to our science, they are also of importance in the history of civilisation. They have at once politically and religiously a conciliating and counterbalancing effect. What would our clinics and hospitals avail us if we could not equip them with the treasures of the knowledge of all masters around us? How long do we, by dint of the concentration of our forces, turn the scientific results of all countries to account? Langenbeck became quite a youth as he explained to me the blessing of the intellectual coöperation of the medical departments, and his enthusiastic discourse closed with the words: 'Only club all well together, intellectual as well as metallic capital; it is the age of association we are living in, and thus we place ourselves best in the service of mankind.' I have told Langenbeck of all my dear ladies who stand helpfully at my side, and he is so taken with our efforts that he told me he would succeed in adding some Nabobs to the circle of quiet benefactors. The next large sum shall go to our dear Bonin. I rejoice already in the thought of it, and am happy, in spite of all the bodily distress that oppresses me, that some of the work in which noble people help me succeeds.'

On the recent occasion of the opening of the Emperor and Empress Hospital for Children, Professor Henoch, whose seventieth birthday fell about the same time, contributed 1500 marks to it.

The Anthropological Congress has chosen Königsberg for its next year's meeting.

Berlin, Aug. 19th.

Obituary.

JOHN ELLIOTT WOOD, M.R.C.S., L.S.A.

JOHN ELLIOTT WOOD was the eldest son of Mr. Abraham Wood of Rochdale, Yorkshire, a well-known surgeon who acquired celebrity by his success in lithotomy, and was one of the first Fellows of the Royal College of Surgeons of England. Mr. J. E. Wood was educated at University College, and, qualifying in 1846, was at first associated with his father in practice at Rochdale, and subsequently pursued his professional work at Jersey and Leamington. Succeeding Dr. James Lithgow in 1877, he had practised at Weymouth for the last thirteen years, where he gained respect by his uprightness and honourable conduct. Though afflicted for years with locomotor ataxy and Charcot's disease of the knee-joint, he struggled bravely on with his work to the day of his death, which occurred suddenly on the 2nd inst.

Medical News.

MR. J. W. PHILLIPS, M.R.C.S., of Cowbridge, who suffered much from insomnia, and appears to have been in the habit of taking morphia for its relief, died on Monday from the effects of an overdose of the drug.

THE GERMAN EMPEROR AND SICK CHILDREN.—The Emperor William has ordered a careful examination of all children in large manufacturing towns, and where any are found to be delicate they are to be sent, at the cost of the State, for a fortnight to the shores of the North Sea.

WHOOPING-COUGH.—The national schools at Hathern, Notts, were to have been reopened on Monday after the Midsummer holidays, but in consequence of the great prevalence of whooping-cough in the district it has been decided to keep them closed a little longer.

DISTRESSING DEATH OF A MEDICAL STUDENT.—At Melbourne, on the 1st ult., while a medical student was leaning out of the window of a first-class railway carriage, his head was caught against the unfastened door of a train travelling in the opposite direction and frightfully mutilated.

JUVENILE CIGARETTE SMOKING.—The New York City Council has, it appears, issued instructions to the Police Department to strictly enforce the new State law, which becomes operative on Sept. 1st, prohibiting boys under sixteen years of age from smoking cigarettes in the streets or any other public places.

THE ALVARENGA PRIZE.—Dr. R. W. Philip, Edinburgh, has by the College of Physicians, Philadelphia, been awarded the Alvarenga prize (consisting of one year's income of the bequest) for "the best memorial or unpublished work on any branch of medicine." The subject of Dr. Philip's essay was "Pulmonary Tuberculosis." This is the first award that has been made under the bequest, which was made to the College by the late Señor Alvarenga of Lisbon, Portugal, an Associate Fellow of the institution.

FEES FOR CERTIFYING PAUPER LUNATICS.—At a meeting of the Norwich Board of Guardians on the 13th inst., the Hon. Canon Copeman presiding, Mr. Chas. Browne called attention to the amount proposed to be paid by the relief committee to medical gentlemen for attending the workhouse when required to give certificates in cases of lunacy, and stated that the relief committee had decided against a claim of one guinea for such services, and voted half the sum, which had been refused. He moved that the fee paid be one guinea. Considerable discussion ensued, when Mr. Nash moved that the board approve the action of the relief committee, which was carried as a substantive resolution.

OPIUM IN CHINA.—The Emperor of China has issued a decree legalising the production of native opium, which will in future be a source of revenue to the Imperial exchequer.

DEATH UNDER CHLOROFORM.—An inquest was held at St. Helen's, Liverpool, on the 18th inst., on the body of a woman who was received into the local cottage hospital to undergo amputation of a finger on the left hand. Shortly after the administration of chloroform by Dr. E. Casey the respiration stopped, and death ensued in spite of all efforts at resuscitation. The jury returned a verdict of "Death from misadventure whilst under the influence of chloroform."

EPIDEMIC IN NEWFOUNDLAND.—Reports come from St. John's, Newfoundland, that a "plague" is ravaging the fishing towns of the French shore. Very few of those attacked having recovered, the number of fatalities has been very great. The doctors have not yet been able to define the exact nature of the disease, but an official report will be made by physicians who have been sent for that purpose. The natives believe it to be a virulent type of diphtheria.

CHERTSEY WORKHOUSE INFIRMARY.—The need of structural improvements and of adequate accommodation in this infirmary was again brought before the guardians at their meeting on the 12th inst., at the instance of the Local Government Board. The medical officer submitted a special report on the subject, and some discussion followed, with the result that the question was deferred until the next meeting of the guardians, then to be thoroughly considered.

THE DENABY VACCINATION CASE.—Dr. Hills, at a meeting of the guardians held last Saturday, tendered his resignation of the appointment of public vaccinator, in consequence of the action taken by the Local Government Board in reference to the alleged irregularities already reported. The guardians, however, upon hearing Dr. Hills' explanation, considered it satisfactory, and a proposal that the Local Government Board should be asked to reconsider its decision was agreed to.

ADMINISTERING THE OATH.—*Apropos* of an article which appeared in our columns on July 19th, the following circumstance will be read with interest. During the hearing of a case in a Conway police-court a few days ago, a witness desired under Section 5 of the Oaths Act, 1888, to be sworn with uplifted hands in the form and manner adopted in Scotland. The oath was thus administered, the witness afterwards being upheld by the police superintendent in refusing also to kiss the book when requested to do so by the chairman.

THE RIVER LEA.—The Hertford Town Clerk has addressed a letter to *The Times*, in which, after quoting the decision of one of Her Majesty's judges in the action brought by the Lea Conservancy Board against the Corporation of Hertford, and which was dismissed with costs, he states that "the corporation have since caused their sewage to be carefully treated, and their effluent analysed from time to time by competent chemists, all of whom report that the treatment renders the effluent absolutely harmless to the waters of the river Lea."

MEDICAL NOTES IN PARLIAMENT.

Public Health Act Amendment Bill.

IN the House of Commons, on Saturday, the Lords' amendments to this Bill were considered and agreed to.

Vaccine Lymph.

Mr. Long, replying to Dr. Tanner, said it was true that the medical officer of the Local Government Board, in a letter to Mr. Watt, public vaccinator to the Hovingham district of the Malton Union, pointed out that the choice of lymph must rest with the vaccinator, and not with the parents, and that the principle on which the National Vaccine Institution proceeds in its distribution of lymph is to furnish each applicant with enough for the performance of a few first vaccinations, with the expectation that the vaccinator will supply himself afterwards from the series thus commenced. It was not proposed to make any change in this arrangement during the sitting of the Commission.

On Monday, in reply to Mr. J. O'Connor, on behalf of Dr. Tanner, Mr. Long stated that the calves at the Vaccine Establishment were made to serve two purposes—namely, the vaccination of infants direct from the calf at Lamb's Conduit-street, and the supply to the Vaccine Establishment of lymph stored on points for issue to medical practitioners desirous of starting series of arm-to-arm vaccination. The number of points received by the Local Government Board from the Animal Vaccine Establishment averaged in

1888 about 80 per calf, the calf being also used for vaccinations as already stated. Calf lymph is not now issued by the Board in tubes. The cost per calf for lymph-propagating purposes could only be separated with great difficulty, if at all, from the expense of maintaining a large infantile vaccination station for the metropolis, the two expenses going on concurrently on the same premises.

On this day the fifth session of the twelfth Parliament of the Queen's reign came to a close.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at midnight on August 19th, 1890.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases.	Total.	
Eastern Hospital	268	47	..	35	3	353	442
North-Western Hospital	265	28	..	9	..	302	415
Western "	113	10	..	5	1	129	262
South-Western "	152	..	..	..	1	153	340
South-Eastern "	193*	18	3	23	3	240	462
Northern "	411	24	..	..	..	435	480
Totals	1402	127	3	72	8	1612	2401

* 1 infant with mother.

BOOKS ETC. RECEIVED.

LEWIS, H. K., Gower-street, London.

The Mechanism of the Circulation of the Blood through Organically Diseased Hearts. By Herbert Davies, M.D., F.R.C.P. Edited by Arthur T. Davies, B.A., M.B. (Cantab.), M.R.C.P. 1889. Pp. 64.

WRIGHT, J., & Co., Bristol, and SIMPKIN, MARSHALL, & Co., London.

Baths and Bathing: A Book for Everybody. How to Bathe, when to Bathe, when not to Bathe. By Joseph Farrar, M.D., L.R.C.P. Edin. Fourth Edition, revised and enlarged. 1890. Pp. 110. Price 1s.

Taylor's System of Shorthand Writing; edited by M. Levy; new edition (No. 5, Mitre-court, Fleet-street, London, 1890).—Tempting Dishes for Small Incomes; by Mrs. De Salis (Longmans, Green, & Co., London, 1890), price 1s. 6d.—The Queen's College, Birmingham, Calendar for Session 1890-1: Medical Faculty, Dental Faculty, Hospital Regulations (Hudson & Son, Birmingham.)—Recherches Expérimentales sur l'Origine Microbienne du Tétanos; par Paul B. Bossano (Félix Alcan, Paris, 1890).—A new Operation for Prolapsus of the Anterior Vagina, Wall; by A. F. Currier, M.D. (New York), 1890; Reprint.—Mikrol photographischer Atlas der Bakterienkunde; von Dr. C. Fraenkel und Dr. R. Pfeiffer; Achte Lieferung (August Hirschwald, Berlin, 1890).—Premières Recherches sur la Nature et l'Etiologie du Tétanos, par René Verhoogen et Charles Baert (Henri Lamertin, Bruxelles; 1890).—Index-Medicus: Authors and Subjects, Vol. XII., No. 7, July, 1890 (Trübner & Co., and Lewis, London).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ANDREW, J. LAWTON, M.D. St. And., M.R.C.P. Edin., M.R.C.S., has been appointed Surgeon to the District Infirmary, Ashton-under-Lyne.

ARMITAGE, WILLIAM H., L.R.C.P. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer for the Darwen Urban District.

BERESFORD, ROBT. DE LA P., M.D. Glasg., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Oswestry Rural and Union Districts.

BOOTH, JAMES M., M.D., M.B. Aberd., has been appointed Assistant Visiting Surgeon to the Aberdeen Infirmary.

BOUSTEAD, R. J., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Hexham and Haltwhistle Rural Districts, vice Maclagan.

BRAND, GEORGE HENRY, L.M.S., L.S.A. Lond., has been appointed Assistant Medical Officer to the Gloucester Friendly Societies' Medical Association, vice W. H. Hewlett, M.B., C.M.

BRITTON, THOS., M.D. St. And., M.R.C.S., has been reappointed Medical Officer of Health for Brighouse, Hipperholme, Queensbury, and Shelf.

CAMPBELL, ARTHUR J., B.A., M.B., B.Ch. Dub., has been appointed Medical Officer for the Third District of the Dursley Union.

CARNEY, PATRICK, L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Tullyvine Dispensary of the Cootehill Union, vice Christie, resigned.

CLARKSON, ARTHUR, M.B., C.M. Edin., has been appointed Demonstrator of Physiology in the Yorkshire College, Leeds.

CLOTHIER, HY., M.D. Lond., L.R.C.P., M.R.C.S., has been reappointed Medical Officer of Health for Hornsey.

COLEMAN, M. OWEN, M.D. Aberd., M.R.C.S., has been reappointed Medical Officer of the Surbiton Urban District.

COOPER, H. J., M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Physician to St. Thomas's Hospital.

CRESWELL, JOHN E., L.R.C.P. Lond., M.R.C.S., has been appointed Junior Assistant Medical Superintendent at the Infirmary of the Parish of St. Pancras.

DAVIES, ALFRED O., L.R.C.P., L.R.C.S. Edin., M.R.C.S., has been appointed Medical Officer for the Districts of Machynlleth and Pengroes, Machynlleth Union.

DOBSON, PARKE S., M.B., B.Ch. Dub., has been appointed Medical Officer for the Newtongore Dispensary District of the Bawnbay Union, vice Spotton, resigned.

FREEBORN, HENRY S. R., M.B., C.M. Edin., has been appointed Medical Officer for the Sixth District of the Abingdon Union.

HUGHES, WILLIAM L., M.R.C.S., has been appointed Medical Officer of Health for the Carmarthen Union District.

HUNTER, E. J., L.R.C.P. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer of Health and Public Vaccinator of Alverstoke.

JEPHCOTT, ROBT. W., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Alcester District of the Alcester Union.

KINNEIR, F. W. E., M.R.C.S., has been reappointed Medical Officer of Health for the Horsham Union District.

LEEPER, RICHD. R., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Workhouse of the Rathdrum Union.

MAGRANE, C. W., Staff Surgeon R.N. (retired), L.K.Q.C.P., R.C.S. Irel., has been appointed Resident Medical Officer to the Dudley Dispensary, vice Mr. W. Saunders, resigned.

MALET, HENRY, B.A. Dub., M.D., B.Ch., has been reappointed Medical Officer of Health for the Borough of Wolverhampton.

MARSHALL, C. DEVEREUX, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Demonstrator of Anatomy at University College, London.

O'CONNOR, P. J. J., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer and Medical Officer of Health to the Bagenalstown Dispensary District, Carlow Union, vice Stawell, resigned.

O'KEEFFE, JOHN, L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Medical Officer for the Panteg District and the Workhouse of the Pontypool Union, vice Edmunds, deceased.

PARKE, JOHN L., Jun., L.K.Q.C.P. Irel., L.F.P.S. Glasg., has been appointed Certifying Factory Surgeon for the Districts of Lingwood, Gilcar, and Milnsbridge.

PAULI, H., L.R.C.P., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Middleham Western District of the Leyburn Union.

REDFERN, JOHN J., M.A., M.D., M.Ch., M.A.O. Irel., has been appointed Medical Officer to the Croydon Gas Company, vice T. A. Richardson, resigned.

SEATON, DANIEL, M.R.C.S., has been appointed Deputy District Medical Officer of Health for the Portsea Island Rural District.

SEVILLE, CHAS. F., M.R.C.S., has been appointed Medical Officer for the Wendron District of the Helston Union.

SMITH, J. BISSET, M.B., C.M. Edin., has been appointed Surgeon to the District Infirmary, Ashton-under-Lyne.

SURMAN, ROBT. J., L.D.S.R.C.S. Irel., has been appointed Honorary Dental Surgeon to the Infirmary, Worcester.

TEMPLEMAN, CHAS., M.B., C.M. Edin., has been appointed Police Surgeon for Lockee, Dundee, vice Alexander, resigned.

WALKER, HUNTER U., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Carlton District of the Worksop Union.

WAYLEN, G. S. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third District and the Workhouse of the Devizes Union.

YEOMAN, WM. M., M.B. Durh., M.R.C.S., has been appointed Medical Officer of Health for the Stokesley Rural District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, increasing by £10 per annum to £150, with furnished apartments, board, and attendance.

BRISTOL FORESTERS' MEDICAL INSTITUTE.—Assistant Medical Officer. Salary £150 per annum. (Apply to Mr. E. S. Burgess, 34, Horfield-road, Kingsdown, Bristol.)

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary of this hospital. Salary £180 per annum, with partly furnished house, coal, and gas.

CHILDREN'S HOSPITAL AND DISPENSARY, Manchester.—Medical Officer. Salary £180 per annum. (Apply to the Chairman of the Medical Board, Children's Dispensary, Gartside-street, Manchester.)

COUNTY LUNATIC ASYLUM, Burntwood, near Lichfield.—Assistant Medical Officer. Salary to commence at £120 per annum, with board, lodging, washing, and attendance.

DEWSBURY AND DISTRICT GENERAL INFIRMARY. — House Surgeon. Salary to commence at £80 per annum, and board provided.

GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer. Salary £130 per annum, with residence, board, and washing.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT, 26, Margaret-street, W.—One Honorary Physician-in-Ordinary and one Honorary Surgeon.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon. Salary £50 per annum, with board, lodging, and washing. (Apply to Dr. Martin, 76, Brunswick-street, Sheffield.)

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W. — Junior House Surgeon for six months. Board and residence provided in the hospital. Honorarium given at the termination of his engagement if his duties have been discharged to the satisfaction of the Board.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer for twelve months. Salary £150 per annum, with board and residence.

RAMSGATE AND ST. LAWRENCE ROYAL DISPENSARY AND SEAMAN'S INFIRMARY.—Resident Medical Officer. Salary £120 per year (£10 allowed for substitute during annual holiday), with furnished apartments, gas, firing, and attendance.

ROYAL ALBERT EDWARD INFIRMARY, Wigan.—Junior House Surgeon. Salary £80 per annum, with apartments and rations, exclusive of wines, spirits, and washing.

ROYAL ISLE OF WIGHT INFIRMARY, Ryde.—House Surgeon and Secretary. Salary £60 per annum, with board, lodging, &c.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House Surgeon. Salary £30, with board, lodging, and washing.

TAUNTON AND SOMERSET HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing in the Hospital. (Apply to the Secretary, 13, Hammet-street, Taunton.)

UNIVERSITY OF ABERDEEN.—Examiners in Medicine: (1) Anatomy, (2) Botany and Materia Medica, (3) Chemistry and Medical Jurisprudence, (4) Natural History and Institutes of Medicine, (5) Practice of Medicine and Pathology, and (6) Surgery and Midwifery. Each appointment for one year, and each will receive a grant of £30.

WALSALL AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Resident Medical Officer. Salary £200 per annum, with unfurnished residence. All drugs, cab and tram fares paid for by the Association. (Apply to the Secretary, 61, William-street, Walsall.)

Births, Marriages, and Deaths.

BIRTHS.

GARLICK.—On Saturday, Aug. 16th, at 3, Gordon-square, the wife of George Garlick, M.D., of a daughter.

JOHNSON-JOHNSON.—On Aug. 15th, at Idmiston-road, Stratford, London, the wife of J. E. Johnson-Johnson, F.I.C., F.C.S., of a daughter.

MARRIAGES.

ALEXANDER—BELL.—On Aug. 19th, at Craigrownie Parish Church, Cove, Dumbartonshire, Lewis D. Alexander, M.D., Kilcreggan, to Florence Annie, youngest daughter of the late Robt. Bell, Glasgow.

BAKER—THORPE.—On Aug. 12th, at St. Andrew's Church, Newcastle, James Barrington Baker, M.D., third son of the late Major Robert Baker, to Annie Swarley, daughter of R. S. Thorpe, Esq., Devonshire-terrace, Newcastle.

KEMPSTER—STONE.—On Aug. 16th, at St. Mary's, Battersea (by licence), Felix Charles Kempster, M.R.C.S., L.S.A., second son of W. H. Kempster, M.D., of Oak House, Battersea, to Sarah Anne (Baby), only surviving daughter of T. Stone, of Yarrow Hall, North Elmham, Norfolk. No cards.

LANSDALE—ROBSON.—On Aug. 19th, at St. Peter's Church, Brighton, by the Rev. J. G. Curry, Rector of Holy Trinity, Southwark, William Lansdale, M.B., M.R.C.S., L.R.C.P. Eng., of Trinity-square, London, to Katie, elder daughter of Thomas Robson, of Buckingham-place, Brighton.

PERKIN—MATHER.—On Aug. 12th, at the Parish Church, Wem, Shropshire, Robert Frederick Thornton Perkin, M.R.C.S., &c., Warwick, elder son of Capt. H. Hilton Perkin, late of the 20th Hussars and 1st Dragoon Guards, to Jessie, elder daughter of the late Rev. Edward Mather, M.A., formerly of Ringley, Lancashire.

POUND—BRIDGE.—On Aug. 19th, at All Saints' Church, Odiham, Hants, by the Rev. George Gainsford, of St. James', Hitchin, assisted by the Rev. T. G. Clarke, Vicar of Odiham, the Rev. W. Standen, Vicar of Long Sutton, the Rev. Henry Bridge and the Rev. Arthur Bridge, cousins of the bride, Clement Pound, L.R.C.P. Lond., &c., to Eliza Aimata, daughter of the late Capt. W. H. Bridge, R.N., and Mrs. Bridge, Odiham

PUDDICOMBE—PARSONS.—On Aug. 13th, at St. John's Parish Church, Frome Selwood, Edward Leonard Puddicombe, L.R.C.P., M.R.C.S., of Silvertown, Devon, to Winifred Grace, youngest daughter of Joshua Parsons, of North-end, Frome.

SANG—ONCKEN.—On Aug. 14th, at East Church, Aberdeen, N.B., by the Rev. James Cooper, M.A., John Edward Sang, L.R.C.P., L.R.C.S.E., of "Balgownie," Bedford Hill-road, London, S.W., to Gertrude, younger daughter of the late Paul Gerard Oncken, Esq., Edinburgh.

STRUGNELL—BROWNE.—On Aug. 12th, at the Parish Church, Chiswick, Walter Thomas Strugnell, M.B. Lond., M.R.C.S., of Brixton-hill, to Susan, younger daughter of J. B. Browne, of Duke-street, W.

WEST—MILLING.—On Aug. 13th, at St. Mary's, Harrogate, by the Rev. Canon Brutton, Vicar and Rural Dean of Tynemouth, brother-in-law of the bridegroom (assisted by the Rev. G. O. Brownrigg, Vicar of the Parish), Charles James West, M.R.C.S., L.R.C.P. Lond., of Streatham, to Mary Morrison, daughter of the late J. Milling, Esq., of Harlow Manor, Harrogate.

WRIGHT—WALTON.—On Aug. 14th, at St. Paul's, Quarndon, Derbyshire, by the Rev. R. Hey, assisted by the Rev. W. G. Nourse, John Lister Wright, M.R.C.S., L.R.C.P., of 4, Full-street, Derby, second son of the late John Wright, M.D., J.P., of Claremont, Cape Town, to Marian, second daughter of George Walton, of Quarndon, Derby.

DEATHS.

BADCOCK.—On Aug. 14th, at Brixton, Dr. G. Sainthill Badcock, of Brixton-road and Kennington-park-road, London, aged 43.

DOYLE.—On Aug. 8th, at Bath Hotel, Tynemouth, Fleet-Surgeon E. Doyle, R.N., of H.M.S. *Castor*, aged 46.

GARNER.—On Aug. 16th, at The Quarry, Hartshill, Stoke-on-Trent, Robert Garner, F.R.C.S., F.L.S., in the 83rd year of his age.

LUCAS.—On Aug. 10th, at Rugby, St. John Wells Lucas, M.R.C.S., late of Withington, near Manchester, aged 75.

SIDEY.—On Aug. 8th, at the Rodona Hotel, St. Mary's Loch, James Stedman Sidey, L.R.C.P., L.R.C.S. Edin., of Selkirk.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 21st, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 a.m.
Aug. 15	29·59	S.W.	62	60	125	75	58	·05	Raining
,, 16	29·74	S.W.	61	58	116	70	58	·03	Raining
,, 17	30·00	W.	63	57	120	75	53	·03	Bright
,, 18	29·87	S.W.	60	57	100	74	57	..	Overcast
,, 19	29·81	N.E.	58	57	72	59	56	·02	Raining
,, 20	29·87	N.E.	59	57	113	72	56	·47	Cloudy
,, 21	30·04	W.	60	56	85	69	57	·01	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

FREE TECHNICAL SCHOOLS FOR FISHERFOLK.

MR. J. LAWRENCE-HAMILTON, whose interest in fish and fishermen is well known, complains in a circular letter of the refusal on the part of Her Majesty's Government to grant a Royal Commission to inquire into the development of inland and coast fisheries and fishing trades as a means to provide cheap, healthy, and abundant fish food for the poor as well as the rich, and to furnish an extensive economical naval reserve from people engaged in the fish trade, at a nominal capitation grant. He suggests that no class of people require more urgently the benefit of technical education than those engaged in the fish industry.

B. C.—By the provisions of the Pleuro-pneumonia Act recently passed the powers hitherto exercised by the local authorities will be transferred to the Board of Agriculture on September 1st.

A Bachelor.—Probably Alex. Mayer's book, "Des Rapports Conjugaux," 4th ed., published in Paris in 1860, would answer the purpose.

Enquirer.—The charge is a reasonable one, and should be sanctioned as such in a court of law.

C. E. H. has forgotten to enclose his card.

CERTIFICATES OF DEATH FOR LIFE ASSURANCE COMPANIES.

To the Editors of THE LANCET.

SIRS,—I should be glad of your opinion, and that of other members of the profession, on the question of our duty in regard to requests from life assurance companies for information respecting deceased patients who were insured with them.

I have just received a printed form from one such company, headed "Confidential Statements by the Medical Attendant during the last Illness of the late Mr. ——," in which the following questions occur:—"5. Give your opinion as to the cause or origin of the disease or diseases rom which death resulted.—6. Did any other disease or diseases precede or co-exist with that which immediately caused death? If so, state the date of origin, and what was the nature and history of such disease or diseases.—7. Have you any suspicion that, in the deceased's case, irregular habits occasioned or aggravated disease or accelerated death?" Appended is a note: "The medical attendant will be good enough to return this form to the head office of the Company and to look to the deceased's representatives for payment of his fee."

Ought such reports to be demanded of us? or ought not a copy of the registrar's certificate of death to be sufficient? If we fill up such reports, whose sanction to our doing so ought we to seek—the widow's, the executor's, the children's, or none?

I am, Sirs, yours truly,

August 19th, 1890. R. J. P. S.

FIRST AID AND BANDS OF HOPE.

MR. W. M. GEE, Secretary of the Church of England Temperance Society, Bridge-street, Westminster, S.W., writes: "The St. John Ambulance Association have arranged to supply simple elementary instruction in nursing and first aid suitable for Bands of Hope and kindred bodies. The Bands of Hope of the Church of England afford an effective means of accomplishing the much-desired object of spreading such knowledge; and, to create a spirit of competition, we hope to be able to offer a banner to the Church Band of Hope in each diocese which, by the spring of 1892, has the greatest percentage of members possessing the certificate of the course. One hundred and fifty pounds are required for this purpose, and I venture to appeal for this sum to medical men."

Indagator.—The reference is to the Seventh Book of Celsus, chap. XXV.: "Ad tegendam Glandem Colis, si nuda est" (On the mode of recovering the glans penis in paraphimosis). This was a surgical proceeding in much request among the Jews of Rome during the first decades of the Empire. They inhabited the city in great numbers, and were subject to a most oppressive tax (*fiscus Judaicus*), to escape which they sought to remove the signs of their nationality by undoing the effects of circumcision, as it was mainly from the presence or absence of the prepuce that the fiscal agent decided whether they were Jews or not.

Medical Officer of Health.—Our correspondent's inquiries relate to a question exclusively legal, upon which we are hardly in a position to anticipate the decision of the courts or to offer advice.

J.—We doubt if the employment is illegal, however undesirable such long hours may be.

Dr. Wiglesworth.—We shall be pleased to receive the paper.

"MEDICAL PUFFING BY THE LAY PRESS."

To the Editors of THE LANCET.

SIRS,—On my return from a summer holiday my attention has been called to a paragraph in THE LANCET relating to notices in a local paper of two accidents I attended. I was not aware until to-day that such notices had appeared. It is a common thing, I find, for accounts of accidents, with the names of the attending surgeons, to be inserted in such papers. Reporters have to live as well as doctors. Having a large practice, I necessarily have many accidents to attend to. On referring to my case-book, I find I had several other severe ones that week; so it does not appear to me particularly strange that two of the number should be reported in the paper for my district. What does, however, distress me is that any professional brother should stoop to attack me anonymously; for, of course, your correspondent knew his name would not appear. However worldly wise we may be, such secret darts have their sting. Ever since I embarked in practice in this neighbourhood I have had offensive anonymous epistles from time to time, in which I can trace evidence of professional wording. The author is probably some local practitioner whose preserves he considers I am encroaching upon, and may, indeed, be your correspondent. I regret he has not sufficient practice to employ his time better.

I trust to your fairness to publish this letter, and remain, Sirs,

Yours obediently,

Lavender-hill, S.W., Aug. 19th, 1890. F. TAYLOR SIMSON.

HOLIDAY DRAWBACKS.

H. W. G.—There should be no difficulty between two medical neighbours in such a case. We should advise the division of the fee. The whims of patients are among the trials of medical men in the holiday season; but the good sense and feeling of true medical neighbours greatly reduce the annoyance, and sometimes afford the greatest pleasure.

The Secretary, Women's Hospital, Wolverhampton.—Our authority was given in the lines by which the paragraph was introduced.

Mr. C. A. Locke will find the information he seeks in our Students' Number of THE LANCET, published in September last.

Mr. W. R. H. Stewart.—In an early number.

QUACK REMEDIES AND THE ARISTOCRACY.

To the Editors of THE LANCET.

SIRS,—A company styled "H. H. Warner and Co., Limited," was floated in London in November, 1889, to acquire the patent of "Warner's Safe Cure." The directors of this company are the Earl of Crawford and Balcarres (chairman); T. W. Boord, Esq., M.P. (deputy chairman); H. H. Warner (managing director in the United States); R. Baelz, Esq.; C. T. Kingzett, Esq.; and C. E. Howard Vincent, Esq., M.P. The £10 shares of the company are quoted, I am told, at over 70, and no doubt a lucrative business is being done. I should, however, as an American medical man, like to know whether it is thought in England a reputable thing for peers and members of Parliament to make money by dealing in a notorious quack medicine.

I am, Sirs, yours faithfully,

August, 1890. A YANKEE M.D.

THE MILK OF THE EGYPTIAN BUFFALO.

ACCORDING to the researches of Messrs. Pappel and Richmond, of the Khedivial Laboratory, Cairo, the milk of the Egyptian buffalo or gamoose, *Bos bubalus*, presents several characteristics distinguishing it from that of the cow, which may well be remembered by medical men who have to treat patients, especially infants, in Egypt or in other countries where this animal is common. The amount of fat was found to be a good deal larger than in cow's milk, the percentage in the specimens examined varying from 5·15 to 7·35. The sugar, which appeared to be a hitherto undescribed variety differing from milk sugar, was also found to be of larger amount than that in cow's milk, the average percentage being 5·41. It is suggested that this sugar should be called *tewfikose*. The fat, too, was found to differ from that of cow's milk, containing minute quantities of sulphur and phosphorus, and yielding four times as much caproic acid as butyric acid, whereas in cow's milk the quantity of caproic acid is only double that of butyric acid. The milk was also found to contain a small quantity of citric acid.

Mr. George Reynalds is referred to our advertising columns.

AN IMPOSTOR.

To the Editors of THE LANCET.

SIRS,—I think the following statement of facts will be useful to your readers. A person representing himself as a qualified medical man, formerly a student of St. George's Hospital, and as having lately practised in Australia, called at my house. He stated he came home to realise moneys supposed to be left him by his father. This, he said, he found not to be the case, and that in an utterly destitute condition he was making his way to a cousin in Glasgow. I paid for supper and bed for himself and wife, and asked them to return in the morning. Thereupon I wrote to the Agent General for Queensland in London, to whom the man represented himself as well known. He wired me in reply that the man was quite unknown to him. He never returned to my house as arranged. Description: Gentlemanly, tall, sunburnt, long, rather thin face, grizzled beard, whiskers, and moustache; in very shabby black clothes.

I am, Sirs, yours truly,

August, 1890. R. C. S. S.

ERRATUM.—In the obituary notice of Dr. Smith, published last week, p. 374, line 12, "July 11th" should read *Aug.* 11th.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Ferrier, London; Dr. Thomas, Glasgow; Prof. Wrighton; Mr. W. H. Bennett, London; Dr. D. R. Dobie, Coldstream; Dr. Bradford; Mr. R. Rae, London; Mr. J. P. Aston, Bradford; Dr. A. Davies, London; Mr. F. Edge, Manchester; Mr. B. F. Owen, London; Mr. Dutt, Cambridge Dr. MacGregor, Auckland, N.Z.; Mr. Rendle, London; Dr. Greville Macdonald, London; Dr. Lush; Herr G. Stirner, Davos; Mr. Young J. Pentland, Edinburgh; Mr. C. K. Bond, London; Messrs. Osborn and Tomkins, Berks; Mr. Craven, Kendal; Messrs. Merryweather and Sons; Prof. D'A. W. Thompson, Dundee; Mr. Allingham, North Wales; Dr. J. Hawkes, Yardley-Hastings; Messrs. Hopkinson and Co., Notts; Surgeon, G. S. Thomson, Bombay; Messrs. Maclehose and Sons, Glasgow; Mr. Baker, Wolverhampton; Messrs. W. Dawson and Son, London; Mr. A. Wilson, Skipton; Messrs. Bowering and Co., Plymouth; Dr. Wiglesworth, Rainhill; Messrs. May, Davis, and Co., London; Dr. Jas. Bays, London; Messrs. Cooper and Co., South Kensington; Mr. Mothersole, Liverpool; Dr. Sandwith; Dr. Angus Macintosh, Chesterfield; Mr. MacQueen, Eastbourne; Mr. Walter Scott, Durham; Dr. F. P. Atkinson, Surbiton; Messrs. Johnson and Johnson, London; Mr. W. H. Richardson, Manchester; Mr. E. Du Cane, London; Messrs. Johnston, Edinburgh; Messrs. Waterlow and Sons, London; Mr. Underhill, Tipton, Staffs; Messrs. Fenwick and Chinery, London; Dr. Thursfield, Leamington; Messrs. Christy and Co., London; Dr. Sutherland; Mr. Biddle, Kingston; Messrs. Keith and Co., Harrogate; Mr. A. J. Rawlinson, Brighton; Messrs. Read Bros., Wolverhampton; Mr. Fairgrieve, Edinburgh; Dr. Shaffer, New York; Mr. Browne, London; Mr. Briscoe, Bolton; Messrs. Beal and Sons, Brighton; Mr. Sacker, London; Mr. Kershaw; Mr. S. H. Barker Price, Liverpool; Mr. Herbert, Nottingham; Mr. Tunmer, Harrogate; Mr. Lamb, London; Mr. Bell, Birkenhead; Mr. F. J. Galt, Lymington; Mr. Jones, Bicester; Mr. Manton, Sheffield; Mr. Ryan, Colchester; Dr. Moore, Dublin; Dr. Basu, India; Mr. Godley, Manchester; Mr. Walker, Aberdeen; Mr. Stocker, London; Mr. Burke, Wolverhampton; Messrs. Oppenheimer, London; Mr. Heath, Birmingham; Mrs. Blissett, Sussex; Mr. Silverlock; Mr. Stenhouse, Glasgow; Mr. Ford, Devonport; Mr. Sealy, Weybridge; Messrs. Orridge and Co., London; Mr. Hornibrook, London; Messrs. W. H. Smith and Son, Manchester; Mr. Beach, Dartford; Messrs. Reynolds and Branson; Messrs. Harrison, London; M. Durand, Paris; Mr. F. T. Simson, Wandsworth; Mr. Taberner, Wigan; Inquirer; R. J. P. S., M.D.; J.; A Bachelor; A. M. C., Kensington-gardens; A Yankee M.D.; Sigma, Aberdeen; Venedotia, London; X., Wexford; Monte

de Alto, London; A. B., Bradford, Matron, Salford; South Devon Hospital, Plymouth; Dorset, London; Spes, London; Cheltenham General Hospital; Energetic, London; Dolphin; M. C., Westmoreland; P. P. P., London.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Tyte, Minchinhampton; Sir R. N. Howard, Weymouth; Messrs. Hilliard and Sons, Glasgow; Dr. Townsend, Normanby; Dr. Foley, Honor Oak; Mr. Grieve, Eastry; Dr. Daly, Hayes; Dr. Darroll, Wickham Market; Mr. Heatly, Halifax; Messrs. Bertie, Smith, and Co., Bury St. Edmunds; Mr. Bruce, Kelso; Messrs. Burroughs, Wellcome, and Co.,; Mr. Egan, Kilkenny; Mr. Tully, Hastings; Mr. Nicholls, Bury St. Edmunds; Mr. Challand, Derbyshire; Messrs. G. Hewlett and Son, Great Eastern-street; Mr. Nicholls, Hunts; Messrs. Wyleys and Co., Coventry; Mr. R. T. Morgan, Clevedon; Messrs. J. E. Bryant and Co., Toronto; Mr. West, Derby; Mr. Hay, Hull; Messrs. Powenceby and Co., London; Mr. Parsons, Westgate, Burnley; Messrs. Blondeau et Cie, London; Mrs. Turner, Finsbury-park; Messrs. Cockell and Bryars, West Hartlepool; Mr. Wraith, Darwen; Dr. Daunt, Hayward Heath; Mr. Peacock, Staffs; Mr. Crow, Canterbury; Mr. Peacock, Staffs; Mr. Thin, Edinburgh; Mr. James, London; Miss Beachcroft, Hants; Mrs. Hitch, Eastbourne; Dr. Sealy, Weybridge; Dr. Pavy, London; Miss Corvan, Sheffield; Mr. Coltman, Leicester; Dr. Gent, Yorks; Dr. Canes, City-road; Dr. Vernon, Yeovil; Dr. Dalston, Westmoreland; Mrs. Ernst, London; Mr. Wright, Derby; Mr. Burgess, Bristol; Dr. Beale, London; Mr. Smith, Tredegar; Mr. S. Crishna Swann, India; Mr. Pound, Odiham; Dr. Riordan, Staffs; Mr. Dixey, Falmouth; Mr. Thorp, Bradford; Mr. Jones, Hereford; Miss Cowan, Sheffield; Mr. Lansdale; Mr. Moxon, Derbyshire; Messrs. Heywood, Manchester; Mr. Griffith, Cumberland; Mr. Dodsworth, Shanklin; Kensington, London; Unqualified, London; Hanover Institute for Nurses; E. P. T., Guernsey; Bristol General Hospital; North Riding Infirmary, Middlesbrough-on-Tees; J. W. C., Fulham; Hants County Asylum Temperature, London; A. B., Kingston-on-Thames; The Coppice, Nottingham; S. M., London; Alpha, Cheshire; Drogueria Universal, Paris; Surgeon, London; Dexter, Birmingham; Dundee Royal Asylum; B. A. E., London; G., London; Rex, London; City Hospital for Infectious Diseases; Sigma, Aberdeen; Pacha; Army Preliminary; Veritas, London; Alpha, Devon; T. N., London; X., London; Substitute, London; Medicus, Edgware; J. H. B., Bradford; M.D., Sevenoaks; Wentworth, London; Mona, London; A. B., Norwood; Bicuspid, London; M. C., London; C. C. C.; Antiseptic, London; Medicus, Crewe; Medicus, Lancs; L.R.C.P.; A. M. B.

NEWSPAPERS.—*Glasgow Herald, Cork Examiner, Bombay Gazette, Essex Telegraph, Eastern Daily Press, Scottish Leader, Freeman, Newcastle Journal, Manchester Guardian, Dundee Advertiser, Birmingham Post, Sunday Times, Kilkenny Journal, Leeds Mercury, Builder, Manchester Examiner, West Middlesex Standard, Metropolitan, Bristol Mercury, Guy's Hospital Gazette, Surrey Advertiser, Windsor and Eton Express, Broad Arrow, Sheffield Daily Telegraph, Chemist and Druggist, Weekly Free Press and Aberdeen Herald, Law Journal, Reading Mercury, Local Government Chronicle, Northern Echo, Architect, Spectator, City Press, Bristol Times, Saturday Review, Windsor and Eton Gazette, Naval and Military Argus, Galignani's Messenger, Pharmaceutical Journal, Notes and Queries, Mining Journal, North Star, Royal Cornwall Gazette, North British Daily Mail, Rangoon Times, West Middlesex Advertiser, Surrey Comet, Warwick Advertiser, South of India Observer, Hereford Times, Derbyshire Courier, Bath Gazette, Ayr Observer, Devon County Standard, United Service Gazette, New Zealand Herald, South Wales Daily News, Consett Guardian, Derby Reporter, Derbyshire Times, Edinburgh Evening Dispatch, Hertfordshire Mercury, Literary Digest, Temperance Record, &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, August 25.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, August 26.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, August 27.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, August 28.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, August 29.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, August 30.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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